No. 529

OCT 26 195
JOHN T. FEY, Cl

Supreme Court of the United States

OCTOBER TERM, 1956

THE COLEMAN COMPANY, INC.,
Petitioner,

v.

HOLLY MANUFACTURING COMPANY, INC.,
Respondent

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

DEAN ACHESON
W. GRAHAM CLAYTOR, JR.
701 Union Trust Building
Washington 5, D. C.
Attorneys for Petitioner

JOHN F. EBERHARDT
Wichita, Kansas
FREDERICK W. LYON
Los Angeles, California
Of Counsel

OCTOBER 1956

INDEX

	Page
Opinions Below	1
Jurisdiction	2
Question Presented	2
Summary Statement	2
Statute Involved	4
Statement of the Case	6
The Problem	6
Solutions Suggested by the Prior Art	8
The Patent in Suit	9
The Decisions Below	12
Reasons for Granting the Writ	15
I. The Decision Below Is Contrary to the Principles Announced in the *A & P* Case	15
II. Review by this Court Is Needed to Correct the Persistent Failure of the Court of Appeals for the Ninth Circuit to Apply the Standards of the *A & P* Case	23
Conclusion	28
Appendix (indexed in separately-bound volume)	

CITATIONS

Air Devices, Inc. v. *Air Factors, Inc.*, 97 U.S.P.Q. 519 (9th Cir. 1953), withdrawn on rehearing, 210 F. 2d 481 (1954), cert. denied, 348 U.S. 825	24
Filtex Corp. v. *Atiyeh*, 216 F. 2d 443 (9th Cir. 1954)	24
Great Atlantic & Pacific Tea Co. v. *Supermarket Equipment Corp.*, 340 U.S. 147	2, 3, 15 *et seq.*
Hansen, In re, 154 F. 2d 684 (C.C.P.A. 1946)	25
Hansen v. *Safeway Stores, Inc.*, 110 U.S.P.Q. 170 (9th Cir. 1956)	4, 25
Patterson-Ballagh Corp. v. *Moss*, 201 F. 2d 403 (9th Cir. 1953)	24
Ry-Lock Co. v. *Sears, Roebuck & Co.*, 227 F. 2d 615 (9th Cir. 1955), cert. denied, 350 U.S. 987	4, 24
Syracuse v. *Paris*, 234 F. 2d 65 (9th Cir. 1956)	26
Schmeiser v. *Thomasian*, 227 F. 2d 875 (9th Cir. 1955)	27

Supreme Court of the United States

OCTOBER TERM, 1956

No. —

THE COLEMAN COMPANY, INC.,
Petitioner,

v.

HOLLY MANUFACTURING COMPANY, INC.,
Respondent

PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

Petitioner prays that a Writ of Certiorari issue to review the judgment of the Court of Appeals for the Ninth Circuit entered on April 10, 1956 (R. 1009, App. p. 26). This judgment affirmed a judgment of the District Court for the Southern District of California, entered in an action brought in that court under the patent laws of the United States pursuant to 28 U.S.C. § 1338, which judgment had adjudicated that a patent owned by respondent was valid and infringed by petitioner (R. 29).

OPINIONS BELOW

The District Court prepared no separate opinion, but entered an "order" for findings of fact, conclusions of law and judgment (R. 17), which is unreported. Its findings of fact and conclusions of law, and its judg-

ment, are included in the printed Record at pp. 19-32. The opinion of the Court of Appeals for the Ninth Circuit (R. 985, App. pp. 1-25) is reported at 233 F. 2d 71.

JURISDICTION

The judgment of the Court of Appeals for the Ninth Circuit, affirming the judgment of the District Court, was entered on April 10, 1956 (R. 1009, App. p. 26). A timely petition for rehearing was denied on July 31, 1956 (R. 1019, App. p. 26). The jurisdiction of this Court is invoked under 28 U.S.C. § 1254(1).

QUESTION PRESENTED

The broad problem raised by this petition is the need once more, as in *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147, for this Court to admonish the lower courts against a reviving tendency to find invention—sufficient to sustain a "patent as flimsy and spurious as this one" (340 U.S. at 158) —in a mere combination of old elements producing novelty and utility but not taking on any new quality or function from their being brought into concert. The specific question presented is:

Whether a patent for a combination of old elements may be upheld solely on the basis of the utility of the combination as a whole, with no finding that any of its elements performs a different function in the combination than out of it.

SUMMARY STATEMENT

To prevent the hot flue of a gas wall heater from overheating the wall in which it is set, a second and larger pipe is placed around it so as to form an insulating air space into which air from the room may be drawn. Prior to the patent in suit, the heated air rising through the space around the flue was simply

exhausted into the atmosphere at the top of the flue. A much earlier solid-fuel fireplace with an air chamber around its flue had, on the other hand, utilized the air heated by the flue by returning it to the room through a vent near the ceiling. Applying this principle to a gas wall heater, Hollingsworth modified the air chamber around the flue so that it too exhausted through a vent into the room. Notwithstanding the earlier patent for a similar vent for *fireplace* flues, Hollingsworth was granted a patent for the device when used in combination with a *gas* heater. Both courts below upheld this patent, finding that the particular combination, though composed of old elements, was new and its results useful.

As its primary reason for granting the writ, petitioner urges that corrective action by this Court has been made necessary by the persistent refusal of the Court of Appeals for the Ninth Circuit to apply the rule of the *A & P* case that, for a combination of old elements to be patentable, some one of its elements must perform a different function in the combination than out of it and it is not enough that the particular combination as a whole be novel and useful. *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U. S. 147. The dilution of the standard of invention in the Ninth Circuit began to be apparent in a series of decisions beginning in 1953, upholding patents for, *inter alia*, a particular arrangement of louvres in a grille; a particular configuration of the grooves on the face of a vacuum cleaner rug tool; and the idea of suspending a free-hanging cylinder, through which a cable was to pass, at the same angle as the cable so as to reduce the friction between the cable and the cylinder. See p. 24, n. 12, *infra*. The full extent to which the applicable standard

of invention has been eroded in the Ninth Circuit is most strikingly demonstrated, however, by three decisions announced within a space of seven months during the past year. In these cases, the court found "invention" in the use of a lever forced down by a bolt to put downward tension on a screen (*Ry-Lock Co.* v. *Sears, Roebuck & Co.*, 227 F. 2d 615, p. 24, *infra*); in the use of a hole in the wall to allow the hot air in an air chamber around a flue to exhaust into the room (the instant case); and in the shortening of the attachable strips for a business form so that the indicia of the foundation form will remain visible (*Hansen* v. *Safeway Stores, Inc.*, 110 U.S.P.Q. 170, p. 25, *infra*). In each case the validity of the patent was upheld on the ground that the combination as a whole was "new and useful," with no finding being made that any particular element was being used in a new way. Only the express disapproval of this Court can be effective to halt such repeated misapplication of the *A & P* case in this important patent circuit.

Finally, the nature of the alleged "invention" (in truth, a hole in the wall) is so simple, and the case is so clearly controlled by *A & P*, that oral argument seems unnecessary and summary disposition would be appropriate. The pressing need for Supreme Court review to correct the persistent error of the court below could therefore be satisfied with only minimal demands upon the Court's time.

STATUTE INVOLVED

The pertinent provisions of the patent laws of the United States are as follows (66 Stat. 797-98, 35 U.S.C. §§ 100-103):

> "§ 100. *Definitions*
>
> "When used in this title unless the context otherwise indicates—

"(a) The term 'invention' means invention or discovery.

* * *

"§ 101. *Inventions patentable*

"Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

"§ 102. *Conditions for patentability; novelty and loss of right to patent*

"A person shall be entitled to a patent unless—

"(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent, or

* * *

"§ 103. *Conditions for patentability; non-obvious subject matter*

"A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made."

STATEMENT OF THE CASE

Respondent's patent (Hollingsworth, No. 2,602,441, July 8, 1952),[1] held below to be valid and infringed by petitioner, is for a conventional gas wall heater equipped with an "economizer" (referred to in the patent as a "secondary heat exchanger"). The economizer is simply a device to utilize the heat otherwise wasted up the flue of the heater and at the same time to prevent the flue from overheating the wall in which it is set. The issue is whether, in view of the prior art, the patent discloses an "invention."

The Problem

The construction and operation of the conventional gas wall heater of the prior art is not in dispute; it is described both in the recitals of the patent in suit (App. pp. 33-34) and in the extensive testimony of the patentee himself, J. H. Hollingsworth (R. 50-199). It consisted of a tall, shallow, metal box surrounding a flattened pipe or "radiator" through which flowed the combustion products of a gas burner. Air from the room entered the space between the box shell and this pipe or

---

[1] Pl. Exh. 1, R. 47, 739. This patent is reproduced in full in the separately-bound Appendix to this petition (pp. 27-36), together with two other exhibits referred to below.

Pursuant to Rule 21(4), nine additional copies of Volumes I and II (pp. 1-737) of the Record printed for use of the court below have been filed with the Clerk. These volumes include all testimony and proceedings in the District Court. The volume containing the exhibits (pp. 739-982) and that containing the proceedings in the Court of Appeals (pp. 983-1020) were not reproduced in sufficient number, so that only a single certified copy of these two volumes has been filed with the Clerk. For the Court's convenience, therefore, we have reproduced in the Appendix the three most relevant exhibits—the only ones which we believe it necessary to consider in connection with this petition.

radiator through an opening at the bottom of the box, circulated around the hot radiator, and rose through an opening at the top of the box back into the room (Patent, App. p. 33). The whole unit was placed in the lower half of a wall between two studs, leaving a space for air circulation between the box and the studs and rear panel of the wall (Hollingsworth, R. 170-171). A flue for the radiator was enclosed in the upper portion of the wall, and the combustion gases leaving the top of the radiator flowed into the flue through a "draft hood" (simply a device, explained in the margin,[2] to permit additional air to be drawn into the flue at the point between the radiator and the flue) (Patent, App. p. 33).

Wall heaters of this conventional type, although popular and generally efficient, had two substantial drawbacks (see Patent, App. pp. 33-34):

> (i) A considerable amount of heat remained in the gases wasted up the flue and was not being utilized.

---

[2] The well-known "draft hood" can be visualized as an inverted funnel, the large lower part of which fitted over, but was not in direct contact with, the top of the radiator, and the small upper part of which led into the flue. While there was thus an open space between the top of the radiator and the flue, the updraft of the hot gases caused them to "pour" into the hood which then funnelled them into the flue. The purpose of this "gap" was to immunize the combustion chamber in the radiator from any changes in the draft in the flue caused by atmospheric conditions. Thus, an increase in the draft in the flue would cause room air to be drawn in at the draft hood but would not affect the draft in the radiator. Similarly, a sudden down draft in the flue would cause the gases to "spill out" at the draft hood rather than be forced back down the radiator—which, of course, would smother the gas flame and create dangers of asphyxiation. See Patent, App. p. 33; Hollingsworth, R. 76-77, 159-60.

(ii) The flue could not carry the undiluted products of combustion without dangerously overheating the upper portion of the wall. This made it necessary, as the patent recites, so to construct the flue of such a heater that it would draw air directly from the room at the draft hood, in order to dilute the combustion gases entering the flue and thus reduce their temperature. This "bleeding" of air into the flue, however, necessarily reduced efficiency by withdrawing warm air from the room. In addition, the "hot wall problem" continued to prevent the increase of thermal inputs beyond a fixed range. See Hollingsworth, R. 197-98.

Thus the conventional wall heater posed two interrelated problems: how to carry off the heat of the flue to prevent overheating of the walls, and how to utilize the flue heat thus carried off to heat the room.

Solutions Suggested by the Prior Art

In the history of wall heating numerous patents have taught the principle of utilizing the heat of a flue by circulating room air around the flue and returning it to the room. Illustrative of these prior art patents was McLeod, No. 1,361,389, December 7, 1920,[3] which described a device "designed to conserve and utilize the ordinary wasted heat in open fireplaces." The device consisted of an air chamber surrounding the back and sides of a fireplace and extending up around the "smoke pipe" to the ceiling, where it opened through a grille into the room. Cold air entered the air chamber through suitable openings at the floor, circulated around the fireplace and flue, and then returned to the room through the upper grille. The

[3] Def. Exh. C, R. 295, 839, reproduced in Appendix, pp. 37-44.

specifications expressly noted that the air was thus warmed "by the heat radiating from not only the back and sides of the fire box but also from the smoke pipe."

More recently, a double-walled or "ventilated" flue had been developed and widely used as a solution to the hot wall problem in gas wall heaters. A description of one of these, admitted to have been in use prior to the invention in suit (Hollingsworth, R. 143-44, 160), was introduced in evidence as Defendant's Exhibit T (R. 146, 941) and is reproduced in the Appendix to this petition (pp. 45-48). It consisted simply of a larger-diameter shell placed around the flue so as to form an air space between the shell and the flue. Openings near the bottom of the shell permitted air to enter this air space and to circulate upwards around the flue to its top, where it was allowed to escape into the atmosphere. The air to feed the ventilated flue was drawn from the room through a vent near the ceiling, or from the attic through an opening at the top of the stud space. The ventilated flue was successful in reducing wall temperatures but, since the air space around the flue opened into the atmosphere rather than into the room, failed to utilize the heat of the flue. (Hollingsworth, R. 182-85).

At the time of the patent in suit, therefore, the prior art left as the final "problem" to be solved the following: how to retain the wall-cooling advantages of the ventilated flue without the loss of heat resulting from discharging the air heated by the flue into the atmosphere rather than discharging it—as had long been done with solid-fuel fireplaces—back into the room.

The Patent in Suit

Hollingsworth's solution was an obvious one: he modified the ventilated flue so that the air chamber

around the flue, instead of opening into the atmosphere, opened into the room. The ventilated flue so modified is the "economizer" for which, when in combination with the basic gas wall heater, the patent in suit was issued.

The advantages of the combination as a whole were, as claimed in the patent (App. pp. 33-36), admittedly substantial:

> (i) Like the ventilated flue, it carried off the heat from the flue and thus prevented overheating of the walls. The solution of the hot-wall problem, in turn, not only made possible an increase of thermal inputs but also made unnecessary the prior practice of bleeding air into the flue to dilute the combustion products and thus permitted the flue to be reduced in size [4] so that it would draw only a minimum amount of air from the room.[5]

---

[4] That the flow of gases in a flue (and hence the amount of air it will draw) can be regulated by the size of the flue is, of course, an ancient principle of fluid mechanics, which Hollingsworth expressly disclaimed having discovered (R. 132). Indeed, it was by application of this principle that the old flues had been "designed" to draw air in the first place (Patent, App. p. 33; Hollingsworth, R. 193, 197).

[5] The advantages of a small flue size are especially great if a tall flue is to be used (*e.g.*, in a two-story building). Since the amount of draft generated in a flue increases with its height, a flue size large enough to draw a substantial amount of air when only a short flue is used (as the old flues were) will draw an excessive amount of air when a tall flue is used. In addition, reducing the size of the flue increases the turbulence of the flow, and a turbulent flow is less affected by an increase in the draft. Thus a flue made small enough to draw only a nominal amount of air with a short flue will draw only slightly more air with a substantially taller flue. The solution of the hot-wall problem, therefore, by permitting smaller flues to be used, not only lessened the absolute amount of warm air

(ii) Unlike the ventilated flue (but like the McLeod fireplace air vent) it returned the air warmed by the flue to the room, thus directly increasing efficiency.

Hollingsworth's contribution thus consisted of the application to a conventional gas wall-heater assembly of the vent arrangement which McLeod had applied to a fireplace.

In addition to the opening from the economizer into the room, Hollingsworth also included as an element of his claims the use of a smaller flue. This, of course, followed from the fact that with the hot-wall problem solved it was no longer necessary to use a flue large enough to draw air for cooling purposes. Finally, apparently in a further attempt to distinguish the patent from the ventilated flue, the claims also specify that the economizer is adapted to draw its supply of air from the opening at the floor level of the room and up through the space behind and to the sides of the lower radiator box, rather than through a direct vent from the room as in the old ventilated flue—hardly a material contribution in view of the fact that the McLeod fireplace heater identically utilized air from the floor level.[6]

---

drawn out of the room but also lessened the relative increase of heat loss caused by tall flues. See Patent, App. p. 34.

[6] In the course of the litigation of the infringement issue below this seemingly unimportant feature of the patented device emerged as the essence of the alleged invention. Respondent asserted in its brief filed in the court below (p. 45) that

> "the only possible difference between the parties or the issue of infringement is whether the Coleman [petitioner's] economizer is 'adapted to receive air flowing upward outside the first box and inside the wall' as claimed in the patent in suit."

The relevant claim of the patent—in which the flue in the upper portion of the wall is referred to as the "second radiator" [7] and the shell around it as the "second box"—is set forth in the margin.[8]

The Decisions Below

The District Court's findings on the issue of validity are for the most part simply a recitation of the conceded benefits of the Hollingsworth device. Thus it

---

[7] It matters little, of course, what labels are used so long as we remain the master of them. Witness, however, this attempt in the patent specifications to impart novelty by the use of labels: "a draft diverter is connected between the two radiators, instead of at the flue, as is customary" (Patent, App. p. 34). In truth, of course, the relation of the draft hood to the combustion chamber and to the flow of the combustion gases is precisely the same as it is in a heater with a ventilated flue, or for that matter, any kind of flue. The only thing novel is labeling the gas passage above the draft hood a "radiator" instead of a "flue".

[8] "We claim:

"1. In a wall heater for burning gas, the combination which comprises [a conventional gas wall heater] . . ., a second box adapted to be mounted in the wall above the first box to extend from a level just above the first box to a level near the ceiling, a second hollow radiator disposed in the second box and spaced from the walls thereof, the horizontal cross section of the second radiator being substantially smaller than that of the first radiator, means connected with the upper portion of the second box for discharging air from the second box into the room just below the ceiling, a draft hood provided with a relief opening into the room and connecting the top of the first radiator with the bottom of the second radiator, said second hollow box having an inlet opening adjacent the bottom thereof and adapted to receive air flowing upward outside the first box and inside the wall, and a flue connected to the top of the second radiator."

The remaining claims in suit simply incorporate the first claim with minor variations not affecting the issue of invention. See App. p. 36.

found: that the elements of the combination "cooperate" to permit an increase of thermal inputs without overheating (Finding 9, R. 21); that the invention

> "has simultaneously solved the hot wall problem from floor to ceiling, increased thermal efficiency while permitting increased heat input, improved air circulation within the room, minimized heat loss due to warm air being sucked out of the room into the flue through the draft hood, and has rendered this heat loss substantially independent of flue height" (Finding 9, R. 21-22);

that the elements "cooperate to produce a new and beneficial result unattained before the invention" (Finding 11, R. 22); and that the invention "represents a new and useful improvement in wall heaters fired with gaseous fuel and has provided a substantial contribution to the art" (Finding 18, R. 24).

In addition, the court found that "it required the exercise of inventive faculty to invent the combination" (Finding 10, R. 22); that "the results of such combination exceed the accumulation of the results of the individual elements" (Finding 11, R. 22); and that the prior art patents introduced as evidence of "anticipation" (which reference does *not* include the ventilated flue),

> "taken either singly or in combination, do not describe a gas burning wall heater wherein the principle, or mode of operation, or results attained are equivalent to those of the patent in suit; that said prior art patents, taken either singly or in combination, do not describe or suggest the group of cooperative elements described and claimed by the patent in suit" (Finding 17, R. 23).

On the basis of these findings, the District Court held the patent valid and, after finding that the heater manufactured by petitioner infringed the patent, enjoined further infringement and referred the issue of damages to a master (R. 29-32).

The Court of Appeals for the Ninth Circuit affirmed the judgment of the District Court in all respects. It found that an economizer "of this peculiar construction and arrangement" had never been used before and that the elements "cooperate in a new way to produce a new, useful and unexpected result," giving to the combination a "unique quality" which makes it "a valuable contribution" to the art.[9] As to the McLeod and similar fireplace patents, the court thought that Hollingsworth "parted company with the basic design portrayed by these concepts to create something new in overall construction and functional operation—a compact unitary wall device" adaptable to modern conditions in which an effective "single-room gas-burning heater device would be highly desirable and certainly very useful" (App. p. 24).

---

[9]App. pp. 15-16. In support of its conclusion, the Court of Appeals not only repeated at length the District Court's findings (App. pp. 17-21), but also made numerous assertions which it did not purport to base on the findings of the trial court: *e.g.*, that creation of the combination would not have been "a simple, obvious and fairly easy chore" for a skilled mechanic; that it "yields 'surprising consequences' which others in the heating field failed to find 'obvious'"; and that the results were "unexpected" (App. pp. 15-16).

REASONS FOR GRANTING THE WRIT

This Court should review and reverse the decision below in the exercise of its supervisory power to halt the consistent failure of the Court of Appeals for the Ninth Circuit to apply the standard of invention announced by this Court in *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147. Under these circumstances the absence of any conflict of decisions among the circuits in the usual sense becomes unimportant. If this decision is permitted to stand without review, the *A & P* case and the basic principles it so plainly enunciated must be said to be now of primarily historic rather than living importance in the courts within the Ninth Circuit. Since this has come to be one of the most important patent circuits in the country,[10] the question is plainly one of sufficient importance to warrant the attention of this Court.

I

THE DECISION BELOW IS CONTRARY TO THE PRINCIPLES ANNOUNCED IN THE *A & P* CASE

There was no finding in this case that any of the elements of the combination is new. The bottom heater unit is admittedly old, and every element of the economizer is found either in the old ventilated flue or in the McLeod fireplace "economizer." The invention, if any, must therefore be found in the particular combination of these elements, as indeed the patent itself recognizes in claiming only the "combination." Accordingly, the question of invention must be governed by

[10] A summary review of the last forty volumes of the Federal Reporter, 2d series (1952-1956), indicates that the Court of Appeals for the Ninth Circuit has been second only to that for the Seventh Circuit in the number of patent cases coming before it.

the standard of invention for mechanical combinations announced in the *A & P* case.

1. The patent involved in the *A & P* case was for a three-sided sliding frame mounted on a grocery counter and used to pull groceries, placed inside the frame by a customer, up to the counter in front of the checker. As here, the claimed invention lay in the combination of old elements to serve a new purpose, a combination that was found by the trial court to be "decidedly novel" and "new and useful." While the Supreme Court conceded that the combination "produced results more striking, perhaps, than in any previous utilization" of the elements and was a "good idea" satisfying a "long-felt want," it held the patent void for lack of invention. For a combination of old elements to be patentable, it said, the elements must perform some "additional or different function in the combination than out of it," so that "the whole in some way exceeds the sum of its parts." The Court cited chemistry and electronics as examples of disciplines in which old elements might take on such a "new quality or function from being brought into concert," but observed that "this is not a usual result of uniting elements old in mechanics." Applying this strict standard, the Court was unable to find any "unusual or surprising consequences from the unification" of the old elements in the patented device, and observed that no element performed any different function in the combination than it had out of it. Accordingly, there was no invention, despite the fact that the elements used had never been so combined before or put to such a use.

The instant case is squarely controlled by the *A & P* case. Like the sliding frame in the *A & P* case, the economizer admittedly produces "new and useful" re-

sults not attained before and, in that sense, is a valuable contribution to the art. However, just as in the *A & P* case, those results were achieved not by invention but simply by a combination of old elements each of which continues to function precisely as taught by the prior art.

The lower heating unit is admitted to be old both in structure and operation, and the issue thus turns solely on the upper unit, the "economizer." The elements of the economizer are (1) a metal box or cylinder forming an air chamber around the flue and having (2) an air intake at the bottom and (3) an air outlet at the top, opening into the room. The box around the flue functions precisely as it did in both the McLeod fireplace (App. p. 37) and the ventilated flue (App. p. 45): by confining air within a small space around a flue carrying hot gases, it causes heat from the flue to be transferred to the air. The air intake at the bottom also performs the same function as in the ventilated flue and the McLeod fireplace: it permits air to be drawn into the air chamber.[11] Finally, the opening at the top into the room, though not found in the ventilated flue, performs the same function as the opening in the McLeod fireplace: it permits the hot air rising in the chamber to escape into the room.

Accordingly, the use to which the elements of the combination have been put in no way satisfies the requirements of the *A & P* case that, to be invention, some

---

[11] The air intake of the patent is, unlike the ventilated flue, adapted to draw its air from the floor level through the air space around the back and sides of the lower box. In that respect, however, it functions just as did the air intake in the McLeod fireplace, where the air entering the air chamber around the flue was drawn from the floor level through the air chamber around the back and sides of the fireplace. See p. 11, n. 6, *supra*.

one of the elements must be utilized in a way that gives to it a new function or purpose. Indeed, the present case is *a fortiori* to the *A & P* case, in that the grocery frame at least reflected ingenuity in hitting upon the idea of applying the old elements to the new purpose, whereas the very idea of combining the old elements to produce the economizer was itself foreshadowed by the prior art—namely, the solution to the indistinguishable problem in fireplace heating.

2. In reaching the opposite conclusion, the courts below failed to apply the standards of the *A & P* case. A reading of the findings of the District Court and of the opinion of the Court of Appeals produces conviction that, in both courts, the finding of invention was based solely on the beneficial results achieved by the combination, whereas under the *A & P* standard the utility of the results is the starting point, not the answer. Thus the "two-court" or concurrent-findings rule does not preclude Supreme Court review here any more than it did in the *A & P* case. Here, as there, "the questions of general importance . . . are not contingent upon resolving conflicting testimony, for the facts are little in dispute" (340 U.S. at 153). Here, as there, no finding as to invention is attacked except the general conclusion, which "cannot stand as a matter of law" (340 U.S. at 154). Examination of the decisions below makes this quite clear.

The findings of the District Court are limited almost entirely to a recital of the benefits produced by the combination (Findings 9, 11 (in part), and 18, R. 21-22, 24), which of course were conceded from the beginning. Omitting those, and also the ultimate conclusion that it "required the exercise of inventive faculty to invent the combination" (Finding 10, R. 22),

there are left only two findings which are at all relevant to the issue of invention.

The first of these is the finding, in answer to the argument that the claims of the patent were "anticipated" by earlier patents, that the earlier patents "do not describe a gas burning wall heater wherein the principle, or mode of operation, or results attained are equivalent to those of the patent in suit" and "do not describe or suggest the group of cooperative elements described and claimed by the patent in suit" (Finding 17, R. 23). In the first place, this expressly refers only to the allegedly anticipating *patents* and does not include the ventilated flue that was admittedly in common use with gas heaters. In any event, however, it is no more than a finding that this particular combination was not technically "anticipated"—as, of course, the particular combination in the *A & P* case had not been anticipated—and leaves open the crucial question whether the improvement over the prior art was the product of invention.

The only remaining finding, and thus the one upon which the conclusion of invention must rest, is the finding that "the results of such combination exceed the accumulation of the results of the individual elements" (Finding 11, R. 22). This, of course, is the heart of the matter and discloses the basic misunderstanding of the *A & P* standard. The "results" are admittedly new, but an identical finding could have been made with equal accuracy in the *A & P* case itself. The crucial question is not whether new "results" are achieved (they always are) but whether, in achieving them, some element is given a function different from that taught by its prior uses. The essence of the *A & P* standard is that a combination of old elements can rise to the dignity of "invention" only through the discov-

ery of a new "dimension" in one of the old elements as a result of its combination with the other elements—as might have been the case, for example, when cork, previously used only for buoyancy, was found, when used in combination with the necessary packing materials, to be useful as insulation. It is in this way, and not through some subjective addition of "results," that the "whole" may exceed "the sum of its parts."

In sum, the findings of the District Court simply repeat, in various forms, the admitted proposition that the particular combination was new and produced beneficial results not attained in the prior art. In deeming this sufficient for invention, and failing to find that any particular element functioned differently in the combination than out of it, the District Court necessarily departed from the *A & P* standard.

3. The Court of Appeals' opinion, in turn, can be described only as reflecting an attitude unsympathetic to the philosophy of strict application of the patent laws which this Court has repeatedly announced. More immediately apparent than its failure to adhere to the specific standards of invention announced in the *A & P* case is its total failure to comply with the admonition of that case that "Courts should scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements" (340 U. S. at 152). At no point in the opinion are the individual elements of the patent examined to determine precisely wherein their use in the combination differs from that in the prior art. The relevance of the prior art patents is said to be "adequately refuted by the physical construction and operation of these old fireplace devices" (App. p. 22). The objection that the trial court's

findings failed to disclose what in the combination was "new" or constituted "invention" was met simply by the assertion that the findings were "sufficiently comprehensive" (App. p. 17), followed by a lengthy recital of the findings. On the issue of what was "invention," the court contented itself with general assertions to the effect that no economizer "of this peculiar construction and arrangement" had ever been used before and that "this arrangement of parts has caused all of the elements . . . to cooperate in a new way to produce a new, useful and unexpected result in the room-heating art" (App. pp. 15-16). Indeed, the final proof of the court's failure to "scrutinize with care" the patent in suit is that a careful reading of the lengthy opinion does not disclose what in the combination was thought to be novel or how it was thought to function differently than in the prior art.

That the court did not consider it necessary to scrutinize the individual elements of the combination to find novelty in the use to which they were put, however, simply reflects the court's view that it was sufficient that this particular combination of elements had not been anticipated and produced useful results. This is apparent even when the court, stating that it is "fully mindful" of the *A & P* case, poses the question to be answered in terms verbally complying with the *A & P* standard: whether any element performs a different function in the combination than it would out of it (App. pp. 13, 15). In answer, the court chooses the entire economizer as the "element" and finds that it does perform "that sort of function" in that an economizer "of this peculiar construction and arrangement has never been embodied in any type of mechanical wall heater apparatus" before and no prior device embodied "the dual heat-passing operation accomplished by the

use of the upper box 'economizer' integrated into the complete Holly device" (App. pp. 15-16). In short, the "new function" performed by the economizer is that it is used in a new combination which produces new results. That of course is true, but the sliding frame in the *A & P* case performed a "new function" in precisely the same sense.

The confusion lies in the equation of "function" with the ultimate results produced rather than with the use to which each element is put in contributing to that result. The consequence is the total failure to consider the only questions that are relevant under the *A & P* standard: whether the metal box around the flue performs any function other than to confine air in close proximity to the hot flue (its use in McLeod and the ventilated flue); whether the intake at the bottom does other than admit air into the air chamber (as it did in McLeod and the ventilated flue); and whether the opening into the room does other than permit the heated air to escape into the room (its function in McLeod).

Thus it is as true here as it was in the *A & P* case itself that "neither court below has made any finding that the old elements which made up this device perform any additional or different function in the combination than they perform out of it" (340 U. S. at 152). It may be suggested, finally, that any doubt that the courts below failed to apply the proper standard should be removed by the very improbability that any court that understood (and paid heed to) the teachings of the *A & P* case could conceivably have found "invention" in the combination of old elements utilized here.

II

REVIEW BY THIS COURT IS NEEDED TO CORRECT THE PERSISTENT FAILURE OF THE COURT OF APPEALS FOR THE NINTH CIRCUIT TO APPLY THE STANDARDS OF THE *A & P* CASE

Even if this case were simply a single aberration in the application of the standard of invention to the particular facts, review by this Court might well be warranted by the impact of the monopoly granted to respondent, a monopoly that directly affects not only petitioner and other competitors but also the very substantial portion of the public who, because of their limited means, must rely extensively upon low-cost gas wall heaters for warmth, and who purchase some 350,000 such heaters each year (R. 542). But the decision below is much more than a single aberration; it is the culmination of a steady dilution of the fundamental standard of invention that has taken place in the Ninth Circuit since the *A & P* decision.

1. A brief review of the patent cases decided by the Court of Appeals for the Ninth Circuit since the decision in the *A & P* case in 1950 reveals an increasing disregard by that court of the admonition in the *A & P* case to "scrutinize combination patent claims with a care proportioned to the difficulty and improbability of finding invention in an assembly of old elements" (340 U.S. at 152). The teaching of the *A & P* case that it is not enough that a combination as a whole produces beneficial results if, in doing so, each element continues to perform the same function as it did in other uses is now quite ignored, and the test being applied is simply whether the combination as a whole produces a "new

and useful result" or satisfies a "felt need," regardless of *how* it is achieved.

The seeds of this development may be found in a series of decisions beginning in about 1953—after the immediate impact of the *A & P* decision had dissipated —some of which are summarized in the margin.[12] The culmination of the trend, however, is disclosed by three decisions announced during the past year: the instant case, one decided five months before it, and one decided less than two months after it.

The first of these decisions, *Ry-Lock Co.* v. *Sears, Roebuck & Co.*, 227 F. 2d 615 (1955), *certiorari denied*,

---

[12] *Patterson-Ballagh Corp.* v. *Moss*, 201 F.2d 403 (1953). To dampen the lateral "whipping" of a wire cable running from a winch to a pulley at the top of an oil derrick, the cable is run in mid-air through a suspended cylinder, or "spooler," the lateral movement of which is dampened by pulleys and weights. To reduce the friction between the spooler and the cable, the patent taught that the spooler should be suspended by a line attached near its top rather than at its middle, so that it would hang naturally at the same angle as the cable. To the argument that the modification was obvious to one skilled in the art and did not reflect invention, the court replied only that, if so, it would have been made before—an observation that would make any improvement patentable.

Air Devices, Inc. v. *Air Factors, Inc.*, 97 U.S.P.Q. 519 (1953), upheld a patent for a particular arrangement of louvres and vanes in a grille which was especially successful in preventing drafts. The particular arrangement was held to be "novel" and its results "useful." While on rehearing the accused device was held not to infringe and the prior opinion was withdrawn, 210 F.2d 481 (1954), *certiorari denied*, 348 U.S. 825, there is no intimation that the court changed its views on the validity of the patent.

Filtex Corp. v. *Atiyeh*, 216 F.2d 443 (1954), upheld a patent for a change in the grooves on the face of a vacuum cleaner rug tool so that it more effectively picked up hair and lint. The patentee "discovered the difficulty and provided a remedy not thought of before," satisfying a "long felt need."

350 U.S. 987, decided last November, involved a combination patent for a frameless window screen with a device for exerting downward tension on the bottom of the screen to make it taut. The device consisted of a lever arm one end of which was attached to the bottom of the screen and the other end of which rested on a fulcrum on the window sill. The lever arm (and hence the screen) was forced down by tightening a wing nut on a bolt on the window sill which passed through a slot in the lever arm. The District Court held the patent void for want of invention over the prior art (in which a bolt on the window sill passed through a bracket attached directly to the bottom of the screen). The Court of Appeals *reversed* the finding as clearly erroneous; the combination was "new and useful" and, although the lever principle was admittedly old, each element performed a necessary function in "bringing about new results."

That the *Ry-Lock* case reflected the developing attitude of the Ninth Circuit towards combination patents rather than simple and isolated error was soon confirmed: first by the decision below, announced in April of this year, and then by *Hansen* v. *Safeway Stores, Inc.*, 110 U.S.P.Q. 170, decided in June. In *Hansen*—the facts of which more fully appear in the earlier decision of the Court of Customs and Patent Appeals [In re *Hansen*, 154 F. 2d 684 (1946)]—the patent was for the combination of a business form with attachable (*e.g.* adhesive) strips to be placed over the columns of the form as they are filled. Various kinds of foundation forms with attachable strips were admittedly old in the art, but the patented combination was allegedly novel in that the attachable strips were somewhat shorter than the columns of the foundation form and carried

the same indicia, so that when the strips were in place the indicia of the foundation form remained visible and could be checked against the indicia of the strip (to make sure, *e.g.*, that the new "Butter" strip was placed over the "Butter" column). The District Court directed a verdict for the defendant (in an infringement suit) on the ground that the patent was void for lack of invention. The Court of Appeals reversed, holding that the trier of fact might properly find that the particular combination of the old elements "performed a new and useful function" and hence was patentable.

The cumulative weight of these three cases, all decided within a space of seven months, reveals strikingly the extent to which the Ninth Circuit has departed from the strict standards of the *A & P* case. Under the *A & P* standard, the utility of the end result is the starting point; in the Ninth Circuit, it has come to be the conclusive proof of invention, even justifying reversal of a contrary determination. The requirement that an element of the combination take on a new or different function in the combination than out of it has been converted into a requirement simply that the combination "as a whole" perform a new function or produce "better results"—which, of course, the sliding frame in *A & P* clearly did, and which virtually any combination not duplicated in the prior art would do. In short, the guiding principles now being applied in combination patent cases in the Ninth Circuit are the very same easygoing standards which had been adopted by the Sixth Circuit in the *A & P* case and which this Court so forcefully rejected.[13]

---

[13] This is not to say, of course, that the Ninth Circuit Court of Appeals by any means upholds all patents that come before it. See, *e.g.*, *Syracuse* v. *Paris*, 234 F.2d 65 (1956) (patent on simple zipper

2. It is, of course, recognized that patent cases are bottomed largely on their particular facts, and that this Court cannot review every case in which the result is questionable. On the other hand, however, the standard of invention is one that gains substance primarily through its case-by-case application, and compliance with the proper standard cannot be assured by a single pronouncement of principles, however definitive. The public interest in making certain that the patent laws are applied only to reward true discovery thus seems to require, as a minimum, that the Court periodically assess the application of the standard in the lower courts. When after a period of time it appears that one or more courts of appeals are giving to the standard an application which subverts its salutary purpose, it seems appropriate to take action to rectify the error and to re-emphasize the principles which have been ignored. This is such a case.

Moreover, the instant case is an appropriate one for the purpose. The basic facts are not in dispute. On the one hand, petitioner concedes the beneficial results achieved by the patented combination over any previous gas wall heater. On the other hand, neither the relevant prior art (primarily, the ventilated flue and the McLeod fireplace patent) nor the functional differences between it and the patent in suit are disputed. The record thus presents sharply the single issue: whether a combination patent can be sustained solely on the basis of the

---

handbag held invalid); *Schmeiser* v. *Thomasian*, 227 F. 2d 875 (1955) (earth-working roller patent held invalid as containing no novelty or invention over prior art). Our contention is rather that this Court of Appeals has evolved guiding principles for combination patents which are at odds with the fundamental standard of invention laid down by this Court in *A & P*.

beneficial result achieved by the combination as a whole, with no finding that any particular element of the combination has been so utilized as to serve a functional purpose different from its use in prior structures.

It is suggested, finally, that the case is so squarely controlled by the *A & P* decision as to make further argument unnecessary and to make this case an appropriate one for summary disposition. Since what is needed is not so much a reformulation of the standard of invention as a re-affirmation of the *A & P* standard and a disapproval of the interpretation of that standard now firmly established in the Ninth Circuit, summary disposition would adequately serve the purpose of Supreme Court review while at the same time minimizing the demands on the Court's time.

CONCLUSION

The petition for certiorari should be granted, and, so simple are the facts, the principles of physics, and the issue involved, the judgment below should be reversed on the authority of *Great Atlantic & Pacific Tea Co.* v. *Supermarket Equipment Corp.*, 340 U.S. 147, without further argument.

Respectfully submitted,

DEAN ACHESON
W. GRAHAM CLAYTOR, JR.
701 Union Trust Building
Washington 5, D. C.
Attorneys for Petitioner

JOHN F. EBERHARDT
Wichita, Kansas
FREDERICK W. LYON
Los Angeles, California
Of Counsel

OCTOBER 1956

No. 529

Supreme Court of the United States

OCTOBER TERM, 1956

THE COLEMAN COMPANY, INC.,
Petitioner,

v.

HOLLY MANUFACTURING COMPANY, INC.,
Respondent

APPENDIX TO PETITION FOR CERTIORARI

INDEX TO APPENDIX

	Page
Opinion of United States Court of Appeals for the Ninth Circuit, dated April 10, 1956 (R. 985)	1
Judgment of United States Court of Appeals for the Ninth Circuit, filed April 10, 1956 (R. 1009)	26
Denial of Petition for Rehearing by United States Court of Appeals for the Ninth Circuit, dated July 31, 1956 (R. 1019)	26
Pl. Exh. 1—Hollingsworth Patent in Suit (J. H. Hollingsworth, et al., No. 2,602,441, July 8, 1952), R. 739; in evidence, R. 47	27
Def. Exh. C—McLeod Patent of Prior Art (A. D. McLeod, No. 1,361,389, December 7, 1920), R. 839; in evidence, R. 295	37
Def. Exh. T—Brochure "The New QC Metalbestos Wall Heater Vent Assembly" of Prior Art, R. 941; in evidence, R. 146	45

APPENDIX

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

No. 14,711

April 10, 1956

THE COLEMAN COMPANY, INC., a corporation, *Appellant*,

vs.

HOLLY MANUFACTURING COMPANY, a corporation, *Appellee*.

Appeal from the United States District Court for the Southern District of California, Central Division

Before: HEALY, BONE and CHAMBERS, Circuit Judges

BONE, Circuit Judge.

Appellee Holly Company, (sometimes hereafter referred to as Holly) a California corporation and plaintiff below, brought this action charging defendant-appellant Coleman Company, (sometimes hereafter referred to as Coleman) a Kansas corporation, with infringement of Letters Patent secured by Hollingsworth, et al., No. 2,602,441 on July 8, 1952 and duly assigned to Holly, the owner of the patent. The patent in suit covers a gas-burning wall-heater which is a mechanical apparatus.

The allegations of appellee's original complaint were expanded in a first supplemental complaint.[1] Appellant's

[1] The specific charge of infringement set forth in the first supplemental complaint was that prior to the filing of the instant suit and service of the complaint, appellant had manufactured and sold four "models" of its gas-burning wall heaters (Models 64, 67, 68 and 69) which included "a secondary heat exchanger four feet in length known as (appellant's) 4-foot economizer," and that these models "embodied the invention claimed in appellee's Letters Patent"; that since on or about November 2, 1953, appellant had been manufacturing and selling these same (four)

answers to both complaints alleged generally (to quote its brief) that said Letters Patent and all claims were invalid and void for the following reasons:

> (a) The invention or inventions purported to have been patented had been described in printed publication prior to the supposed invention and discovery by Hollingsworth.
>
> (b) That Hollingsworth was not the first inventor of the material and substantial part of the thing claimed in said patent.
>
> (c) That the invention or inventions purported to be patented thereby did not constitute patentable novelty or invention within the meaning of the patent laws, in view of the prior state of the art, and in view of what was common knowledge on the part of those skilled in the art, prior to the date of the alleged invention or inventions of the patentees.

Appellant also denied that claimed acts of infringement by it "ever took place."

In an interlocutory judgment the lower court held that claims 1, 2, 3 and 4 of the said patent were valid and had been infringed by Coleman.[2] By way of relief it granted an

---

models which were then made to include and still include "a secondary heat exchanger three feet in length known as appellant's 3-foot economizer"; that appellant since November 2, 1953 has been making, using and selling these four gas-burning models, and will continue to do so unless restrained by the Court.

On this appeal (and doubtless for the sake of brevity) appellant referred to the upper flue (or secondary radiator) together with the surrounding upper box, as "the economizer," or "secondary heat exchanger." These were used as informal identifying terms and we so employ them.

[2] The claims set forth in the patent are as follows:

"1. In a wall heater for burning gas, the combination which comprises a first box adapted to be mounted in a wall of a room to extend upward therein from a level near the floor of the room to a level part way to the ceiling, a first hollow radiator mounted in the box and spaced from the walls thereof, means for burning fuel in the first radiator, means connected to the lower portion of the first box for introducing air thereinto near the floor of the room, means connected to the upper portion of the first box for discharging air into the room from the box

injunction prohibiting further infringement of the claims and ordered an accounting for damages. This appeal followed.

The Patent in Suit

The patent in suit is an insulated mechanical room-heating appliance of a size and shape and so designed as to be easily fitted into the wall of a room between two studs in a standard wall partition. Outwardly, the entire integrated device resembles two shallow metal "boxes" rectangular in shape which (except as herein noted) fully enclose all of the interior parts within their metal covering. In accordance with the invention the complete device is really two box-like sections, one being placed on top of the other. The lower section is placed in position immediately above the floor level of the room to be heated; the upper box reaches to the ceiling of the room.

Within the center of this lower box section (which occupies somewhere near half of the total length of the complete device) is installed a long hollow metal "combustion chamber" or "radiator" with a much smaller horizontal cross section than the surrounding "jacket" which constitutes the metal insulated "wall" of the device. To a layman this "radiator" might be likened to a centrally located sort of tube or funnel. It contains a gas burner which furnishes

---

near its top, a second box adapted to be mounted in the wall above the first box to extend from a level just above the first box to a level near the ceiling, a second hollow radiator disposed in the second box and spaced from the walls thereof, the horizontal cross section of the second radiator being substantially smaller than that of the first radiator, means connected with the upper portion of the second box for discharging air from the second box into the room just below the ceiling, a draft hood provided with a relief opening into the room and connecting the top of the first radiator with the bottom of the second radiator, said second hollow box having an inlet opening adjacent the bottom thereof and adapted to receive air flowing upward outside the first box and inside the wall, and a flue connected to the top of the second radiator.

"2. Apparatus according to claim 1 provided with a baffle disposed in the first box behind the first radiator and spaced from the radiator and also from the rear wall of the box.

"3. Apparatus according to claim 1 provided with a baffle disposed in the first box behind the first radiator and spaced from the radiator and also from the rear wall of the box to provide a conduit between the

the heat for the patented device, this burner being positioned at or near the bottom of the radiator.

Passing along the sides of this lower radiator are air passages which serve as conduits to conduct or pass upward along the sides of the "radiator" currents of air which become heated by contact with the radiator. This air is admitted into the device through a separate intake grille or aperture facing the open room and located at the base of the lower half of the device at a point near the floor level and opposite the gas burner.

Opposite the upper end of the room side of the lower box section of the two-part assembly is located what is designated in the patent as the "lower grille" or hot air vent which passes air heated by the lower radiator into the room area at a point about midway of the length of the patented device. This particular heat outlet is designated in a diagram shown in the patent as the "1st stage warm air discharge." At a point just above this particular outlet grille the resulting gasses from the "lower or first radiator" rise and pass into and through the area occupied by a so-called "draft diverter" or "draft hood" into a "second" but smaller metal radiator occupying a center position in the upper box-half of the patented device. After passing through this "second" or upper "radiator" these gasses are discharged into a flue connected with the top of the second radiator and from this point are vented into the atmosphere above the top of the house.

The patent specifications set forth that "no damper or the like for constricting the flow of the flue gas through these two radiators is provided, and a 'draft diverter' is connected between the two radiators, instead of at the flue, as is customary." The specifications further recite that "this diverter has its relief opening into the room, preferably through the box in which the lower radiator is placed."

---

rear wall of the box and the baffle, said conduit being open at the bottom and also at the top and in communication at the top with the interior of the first box.

"4. Apparatus according to claim 1 in which the second radiator is composed of a shallow front member and a shallow rear member.

"5. Apparatus according to claim 1 in which the second box is composed of a shallow front member and a shallow rear member."

(See later reference to the "draft hood" which is this "diverter" device.)

The lower "radiator" appears from a trial exhibit to be somewhere near the length of the lower box of appellee's device, and its top is open so that heat not transferred by this radiator remains in gaseous products of combustion and is "wasted" up the flue connected to the top of the radiator and then into and through the second "radiator" located in the upper box. From a diagram in the Letters Patent and from a hand-drawn exhibit in evidence, this upper or so-called "secondary radiator" (like the lower radiator) occupies nearly the full length of the upper half section of the entire apparatus. The horizontal cross-section of the upper radiator is uniform in size and is considerably smaller than the lower radiator. There is no gas burner in this (secondary radiator because its function is merely the utilization of heat passing into it from the lower radiator. As in the case of the lower radiator, it is centrally positioned and has air passages surrounding it in which air heated by contact with this radiator may freely circulate. This warm air then passes into the room through an "upper grille" referred to in the patent as the "2nd stage warm air discharge," the grille being located a short distance below the ceiling of the room.

The "upper half" or box section of appellee's apparatus receives the air thus heated by its "secondary radiator" through a *separate* grilled aperture located at the base of the lower unit or box section, and this air is carried up in, and around, the lower radiator box by an independent and enclosed air passage or conduit positioned adjacent to the back or wall side of *both* upper and lower boxes and finally diverted into the room through the "2nd stage warm air discharge" after passing alongside and being warmed by the second radiator.

Positioned between the two "radiators" above referred to is the so-called "draft diverter" or "draft hood" device mentioned above. This part or open area of the patented device constitutes a kind of "gap" or "recess" in the apparatus between the upper and lower "boxes." It opens directly into the room through a "grille", and its function and purpose is (by the use of suitable "baffles") to prevent

a strong atmospheric "down-draft" which might enter the device through the roof flue or final vent, from forcing its way down into the lower (gas-burning) radiator and adversely affecting the combustion zone in this radiator and possibly extinguishing its gas burner thus permitting raw gas to escape into the room. It is claimed that this "draft hood" or "draft diverter" permits such a down-draft of air (if any occurs) to "escape" directly into the room thus lessening or removing outside air pressure on the gas flame. It is noted in the specifications that adjustable dampers are not satisfactory in the flue of a gas-burning device because of the possibility of asphyxiation. Also, that the second (upper) radiator, as a conduit, "will just handle the maximum products of combustion to be conducted in the first radiator, with scarcely any dilution through the draft hood."

The specifications also recite that "the structure of the invention is such that the *hotter* air is brought out into the room at an intermediate level while *cooler* but still warm air is introduced into the upper part of the room near the ceiling by the 2nd stage warm air discharge thus reducing stratification and increasing air circulation in the room."

The lower radiator containing the gas burner appears from a trial exhibit to be somewhere near the length of the "lower box" of appellee's device. Its top is open so that heat not transferred by this radiator remains in gaseous products of combustion and is "wasted" up the flue connected to the top of this radiator into the upper radiator, the two radiators being (thus) connected in series. By this arrangement gas is burned only in the lower radiator with the resulting flue gasses rising through the upper or "secondary radiator" and as we have indicated, are finally discharged into a flue connected at its top which vents them into the atmosphere above the top of the house.

The upper box section which contains the so-called "secondary radiator" (to quote the specifications) "extends from the top of the 'recess' (draft hood) to the ceiling of the room." (This *upper radiator* and surrounding box was referred to by witnesses as "an *economizer* or secondary heat exchanger.") (See note 1 for reference to this "economizer.") Its purpose (as set forth in the patent) is to

scavenge some of the heat that naturally passes out of the lower radiator into this radiator, and also to prevent the upper radiator from dangerously heating the surrounding walls. The specifications point out that both radiators are oblong in section and are constructed of a dark-surfaced heat radiating metal.

It is noted in the specifications that an outer air space placed between the jacket (metal enclosure of the box) and the radiators, (and particularly with respect to the upper box) is an arrangement which "aids in preventing excessive heating of the wall" back of the upper radiator.

As to the heat-producing character of appellee's device, the specifications set forth that the area *inside* the lower radiator immediately adjacent to the gas burner may attain a temperature as high as 2000° F. The hot gases in rising *through* the lower radiator *decrease* in temperature to about 650° F although this temperature is "reduced slightly" *in* the "draft hood." The air passing the lower radiator through the side jackets in the lower exchanger may have a temperature of about 70° F but in passing up the air passages in the lower box which are near the lower radiator, the temperature of this air is *increased* to about 375° F at which temperature it is discharged into the room through the "1st stage warm air discharge."

Cold air (at about 70° F) is likewise admitted to the device at the floor level of the lower box (as above noted) and passes up on the wall side of the box to and into the top box containing the "secondary heat exchanger." This air passes alongside the upper radiator and is finally discharged into the room through the upper or "2nd stage warm air discharge" at which time the air has attained a temperature of 165° F.

Working models of both the patent in suit and claimed four infringing devices, along with drawings and schematic diagrams of these devices, were in evidence before the trial court. They were introduced to illustrate the construction and functional operations of both sets of devices and the court was thus able to follow and appraise the claims of both parties by a visual examination of the construction and physical characteristics of the combinations involved in this suit. It was in position to compare their mechanical

factors and elements with the claims recited in appellee's Letters Patent, as illuminated by the "specifications" therein. The functioning of these devices in actual operation, and the results claimed to have been achieved were thoroughly covered and discussed in the testimony of witnesses, including that of a patentee of the Holly device.

The Prior Art

Appellant presents an elaborate recital in the way of a specification of errors which embodies forty-eight detailed claims. These numerous and lengthy claims of error attack as without justification or foundation practically all of the holdings of the court as set forth in its findings, conclusions and interlocutory judgment. The interlocutory judgment embodies a sweeping order enjoining appellant from such activities as thereafter making, causing to be made, offering or threatening to make, or using or causing to be used, or offering or threatening to use, or selling or causing to be sold, or offering or threatening to sell, or contributing to the making, using or selling of appellee's combination, for the remainder of its patent term.

This injunction order covers appellant's wall heater models 64, 67, 68 and 69, or any wall heaters of substantially the same construction as appellee's patented wall heater, for the remainder of its patent term. The judgment also directed that the cause be referred to a Master pro hoc vice to hear and determine any accounting as to damages suffered by appellee, including damages arising from use and sale of appellant's wall heaters of the models above noted equipped both with the 4-foot economizer and the 3-foot economizer. The court reserved decision on any prayer for increased damages or attorney's fees until after determination of appellee's damages.

Appellant has boiled down and summarized its numerous claims of error by tendering six specific "points" wherein it greatly narrows the material and controlling issues tendered on this appeal. These points are:

> "1. The patent in suit is invalid and void as anticipated by the patent to McLeod.

"2. The patent in suit does not point out and distinctly claim the alleged invention.

"3. Defendant's 4-foot economizer does not infringe the patent in suit.

"4. Defendant's 3-foot economizer does not infringe the patent in suit.

"5. Both heaters manufactured by defendant are constructed in accordance with the teachings of the prior patents to Browell and Hamilton.

"6. Plaintiff has lost all right to equitable relief by its actions during the pendency of this litigation."

At trial, appellant introduced in evidence fourteen patents to exemplify prior art in house-heating devices or appliances. However, in its brief (and as above indicated) it has seen fit to discuss, compare and principally rely upon as anticipation of the Holly device, only three prior patents in the house-heating field of art. These are the earlier patents of McLeod, No. 1,361,389; Browell, No. 268,860, and Hamilton, No. 311,313. They are the only ones to which appellant devotes serious argument, and a reference to their structural and functional characteristics seems necessary because it will serve to point up the great difference between them and the Holly device.

The McLeod patent (1920) is a room heating set-up which utilized as its source of heat the conventional open-faced fireplace of that period furnished with the customary grates and burning solid fuel such as wood or coal. The specifications and schematic diagrams shown in the Letters Patent indicate that the patentee was describing his physical set-up by reciting generally that his patent represented certain new and useful improvements in auxiliary fireplace heaters designed to conserve and utilize the ordinary wasted heat in the customary open front fireplace, the ensemble to be constructed and stalled when the fireplace is being built. The invention is said to "consist essentially" in providing a "hot air chamber" positioned around the fire box (fireplace) and the pipe leading from the fire box, and providing suitable air vents in connection with this "air chamber" to permit of the circulation of the air heated by the chamber, within the adjacent room or rooms.

The fire box has the top part provided with an upwardly extending "neck," the sides and front of this neck inclining upwardly at an angle of approximately 45 degrees while the back is vertical. A "hood" device is positioned above the fire grates and it narrows or flares inwardly and upwardly toward its top vent which communicates with the lower end of the "smoke pipe" which pipe passes upward and terminates at the chimney. The lower part of the "hood" is fitted with a "damper" of the ordinary form which can be manipulated from the interior of the room.

Cool air is admitted to the "hot air chamber" by cold air vents located adjoining the ground floor of the room, and when passing upward through this "chamber" this air becomes heated and is then discharged into the room through a "hot air vent" adjacent to the ceiling of the room and which is equipped with a "register" or grille to control circulation of the hot air. The sheet metal pipe enveloping the hot air chamber actually forms a lining to the ordinary brickwork of the chimney and fireplace.

By way of summation, the specifications state that "the spirit of the invention resides principally in the provision of a heating chamber surrounding the fire box and the smoke pipe and suitable inlet and outlet vents connected with the chamber and arranged to effect an auxiliary air circulation within the adjacent room or rooms." The single claim recited in the Letters Patent sets forth the following:

"What I claim as my invention is:

"In an open grate fireplace, a fire box provided at the top and toward the rear with an upwardly extending neck, a band permanently secured to the outer side of the neck, said band and neck being provided with suitably spaced screw threaded openings, a collar inserted within the neck and extending above the same, screws securing the collar through the casing to the band, an upwardly flaring hood having the lower end mounted on the collar, a smoke pipe communicating with the upper end of the hood, an inclosed air chamber surrounding the fire box and smoke pipe, said air chamber extending for a considerable distance up the

smoke pipe, a cold air vent opening to the bottom of the air chamber and a warm air vent leading from the top of the air chamber."

In the Browell patent (1882) a fireplace is also utilized as the source of heat. In the specifications the invention is stated to be "an improved chimney." An inner cylindrical flue or pipe passes directly upward from the fire in the fireplace and leads directly to the roof where it vents the products of combustion into the atmosphere. This flue is to be formed of sections of "earthenware or other pipe."

Surrounding this inner flue is a metal cylindrical tube or "outer casing" which may be formed of sheet-metal sections "properly secured together at the joints." This metal cylindrical tube or casing is so positioned in the chimney that an "air space" is created between its inner sides and the outer sides of the inner fire flue. By this arrangement the air in this air space becomes heated by contact with the hot inner flue and "may be diverted through suitable tubes or passages into rooms adjacent to or distant from the chimney."

The metal cylinder is kept from pressing toward and/or against the inner fire flue of any point along its length by employing metal springs or elastic "braces" which may be placed in position at the joints of the earthenware inner fire flue and are employed to keep the "air space cylinder" in proper position to function as above indicated.

The specifications further set forth that in order to divert the heated air into the room or rooms to be heated, "the space between the outer and inner sections (of the chimney) must be interrupted at some point above the (warm air) outlet (or outlets); otherwise the air would all escape at the top instead of passing into the rooms. This is effected by a cap which may be fitted at or near the top of the outer section (the air chamber) or at any intermediate point or points. The heated air will then be *forced* out into the apartments as desired." (Emphasis supplied.)

The Browell specifications also call for employment of a "secondary flue" which extends upward by the side of and in contact with the chimney and this "flue" is heated by

this contact; this heat produces an upward flow of air through this flue, "and this flue may be used for ventilating purposes, leading into a 'ventilating tower' at the top of the house."[3]

The single claim that the invention was new recited that "in a double chimney having the inner smoke flue composed of sections E, as shown, the joint-bands F, surrounding said sections, and having the curved elastic stays G connected with them and pressing against the interior of the outer section, substantially as and for the purpose herein described."

The Hamilton device patent (granted in 1885) is captioned in the patent as a "hot air heating apparatus." According to the specifications it utilizes "ordinary open grates for heating rooms *above those in which the grates are placed.*" The fireplace pictured in the Letters Patent appears to be an open-faced fireplace of the ordinary character in common use in that period. To accomplish its purposes the inventor described his invention as one which "consists in an arrangement of flues and heating-tubes" which are the subject of the claims. Positioned above the fire grates is a so-called "hood" or canopy which "covers the space over the grate," and from the top of this hood a circular pipe called the "smoke-flue," or "flue pipe" is carried upward.

In the *upper room to be heated* by the apparatus (apparently at its floor level) is a "ring plate" located at the bottom of an aperture or hot air vent which opens into this upper room, and to this ring plate is suspended a so-called "lower pipe" which *terminates* just above the "hood." This pipe divides the space *outside* the "smoke-flue" into two flues, the *outside one* connecting with an exit or aperture which opens into the lower room where the fireplace is located; the *inner one* communicating with the upper room through an opening.

The hood device is to be set far enough down "to leave

[3] An inspection of the schematic diagram appearing in the patent does not disclose the existence of air-intaking openings at the bottom of either the "hot air chamber" or the "secondary flue" in the Browell assembly.

an opening for the entrance of hot-air to the inner and outer flues above mentioned, and to obtain a good supply of highly-heated air."

Two tubes are fitted in the fireplace itself *with their lower ends opening near the floor of the* (fireplace) *room*, and extending at their upper ends into the air-flues above mentioned. These tubes will remove the coolest air from the lower part of the (fireplace) room and deliver it highly heated. The specifications aver that "it is evident that that the air rising in the 'inner flue' will become more highly heated by its contact with the smoke-flue, and thus much heat that would otherwise be wasted will be utilized." The specifications further provide that "suitable doors and 'dampers' are to be provided for regulating the heat." (Emphasis supplied in comments on the foregoing three patents.)

The Holly Device as Patentable Invention

In examining the record in this case we have been fully mindful of the teachings of The Great Atlantic and Pacific Tea Co. v. Supermarket, etc. Co., 340 U.S. 147 where the important question of patentability of mechanical devices came under close scrutiny. The Court there decided, inter alia, that "only when the whole (of a device the elements of which are old in the art) in some way exceeds the sum of its parts is the accumulation of old devices patentable." Since all of the devices here involved are mechanical contrivances the Atlantic and Pacific Tea case imposed upon the lower court the necessity of answering some pertinent fact questions posed by the record before it, and the contested issue of patentability of and invention in the Holly device naturally presented such queries as: Were *all* of the elements of that device old, well-known or used in the art when it was patented? If so, does the "whole" of the device "in some way" exceed the sum of its parts? Is it "wanting in *any* unusual or surprising consequences from the unification of its elements"? If all of its elements were "old in the art" did they take on "some new quality or function which produced a new and better result in the room-heating art from being brought into concert"? If

so, did these elements then contribute to the room-heating art any new and unique quality and distinction which reflect novelty and utility and thus contribute any measurable and substantial advance in that art? The record reveals that these questions were considered and adequately answered by the lower court as will be apparent from its elaborate and sweeping findings which we later summarize.

If we were to assume (which we do not) that *all* of the elements found in the Holly apparatus were old in the art when measured against elements, some of which were shown in one and some in another or more of the cited prior patents, we would still not come up with a wholly satisfactory answer to the question of patentability of the Holly machine. As far back as 1878 the Supreme Court, in a leading case, pointed out that the separate presence of the elements of a combination in three or four other patents in the prior art does not preclude a finding of invention when these elements are later so combined as to produce a *new or better result*. Judge Yankwich applied this principle in Kammerer Corp., et al. v. McCullouch, et al., 39 Fed. Supp. 213 at page 216. His judgment in that case was affirmed by this Court in McCullouch et al. v. Kammerer Corp., et al., 138 F. 2d 482, cert. dismissed 323 U.S. 327. In adhering to the principle above noted, the trial judge adopted language found in Bates v. Coe, 98 U.S. 31, 48 where the Court says:

> "Where the thing patented is an entirety, consisting of a single device or combination of old elements, incapable of division or separate use, the respondent cannot escape the charge of infringement by alleging or proving that a part of the entire thing is found in one prior patent or printed publication or machine, and another part in another prior exhibit, and still another part in a third one, and from the three or any greater number of such exhibits draw the conclusion that the patentee is not the original and first inventor of the patented improvement."

We have referred to the Atlantic and Pacific Tea case because appellant insists that the Holly device is nothing

more than an aggregation of old elements which were incorporated in one or the other of the various prior art patents cited by it as evidence of anticipation, with particular emphasis on the three fireplace devices we have described. In its brief it lists the "elements" set forth in Claim 1 of the Holly patent which it asserts "comprises the patent." It argues that of these elements the only ones not expressly admitted to be old by Hollingsworth, the patentee, are elements 6, 8, 9 and 11. As described by appellant these are: (a) a second box mounted on top of the first extending from the first box nearly to the ceiling (the box and its radiator air passages and grille arrangement being the "secondary heat exchanger" or "economizer" above referred to) (b) the cross section of the second radiator is smaller in diameter than the first (lower) radiator, (c) means for discharging air from the second (upper) box into the room adjacent to the ceiling (through an upper grille or register), (d) the second box having an inlet near its bottom and adapted to receive air flowing upward *outside* the first box and *inside* the wall.

This suggestion poses the question whether this "economizer" or secondary heat exchanger constitutes an "element" in the Holly device which will (to quote the Supreme Court) "perform any additional or *different function*" (i.e., a special purpose) when brought into concert with the other elements in the combination than it would perform out of it. The trial court was persuaded that it does perform exactly that sort of function, and so are we. From the entire record it appears that a "heat exchanger" or "economizer" of this peculiar construction and arrangement has never been embodied in any type of mechanical wall heater apparatus prior to its application and use in the Holly device. The earlier patented devices all of which were in evidence cannot be said to embody in any material way the dual heat-passing functional operation accomplished by the use of the upper box "economizer" integrated into the complete Holly device. In our opinion this arrangement of parts has caused all of the elements incorporated in the Holly combination to cooperate in a new way to produce a new, useful and unexpected result in the room-

heating art. This combination spells out both novelty and utility. As reduced to practice its attributes have caused the Holly device to take on a new and unique quality and distinction which clearly makes it a new and useful improvement in wall heaters fired with gaseous fuel and as such it represents a measureable and substantial advance and improvement in the room-heating art and a valuable contribution thereto.

Furthermore, a careful look at the prior art patents in evidence makes it impossible to conclude that creating the compact wall combination in suit would have been a simple, obvious and fairly easy chore for a skilled mechanic familiar with room-heating problems after he had seen these Letters Patent and understood the construction and method of operation of the devices there described. In our view the whole of the Holly device yields "surprising consequences" which others in the heating field failed to find "obvious."

In addition, the record establishes a ready and widespread acceptance of the Holly device on the market and attendant commercial success. When the indicia of invention we mention are taken into account together with the true state of the prior art and what the patent in suit accomplished to improve the art, it must be concluded that it represents invention. It is fair to add that it certainly lacks any of the hall marks of a so-called "gadget patent" concerning which there has been critical comment from time to time.

A brief glance at the claims of the patent in issue reveals that the Holly patentees definitely *claimed* the structure and utilization of this new "economizer" assembly as an essential and integral part of their binary device. And we think it abundantly plain that the Patent Office could only have understood that this "economizer" box of the device was claimed and regarded by the patentees as constituting a new and necessary element and part of the entire mechanism, and one essential to the successful performance of the functions, purpose and overall use for which the combination was designed. We hold that the Holly patent in suit represents invention and is valid.

The Findings of Fact

The lower court made and entered thirty-three separate findings which in great detail cover contested issues of fact. Despite this fact appellant strenuously urges that they find no support in the evidence and do not support the judgment. This sweeping conclusion rests in the main on the contention that the court erred in failing to make a finding as to "any differences between McLeod and the patent in suit" other than that they were different. It is also urged that the findings present "no indicia of what the District Court determined the invention was or how it differed from the prior art," or what was "new" in the Holly device, hence the judgment is "entirely unsupported by the findings." While not the subject of argument in the brief, appellant also presents in its specifications of error the claim that the court failed to hold that certain of the claimed prior art patents in evidence (other than the McLeod, Browell and Hamilton patents) anticipated and showed lack of invention in the Holly patent.

The foregoing objection to the scope and coverage of the findings seems based on the assumption that it was the legal duty of the lower court to therein set out a detailed description of and a most meticulous comparison between each and every element in the patent in issue and every element found in the earlier patents introduced by appellant as evidence of anticipation; that since this involved procedure was not adopted, it is our duty to declare the court's findings fatally defective. This contention lacks merit. The findings are sufficiently comprehensive and pertinent to the fact issues to provide a basis for decision; they dispose of material and contested issues, and are not clearly erroneous in whole or in part.

In deference to the lengthy objections voiced by appellant and because this is apparently the first action involving the validity of the Holly patent,[4] we have deemed it desirable to burden the opinion at this point by a summary of the findings wherein the court found:

---

[4] The trial court did not write an opinion in this case.

The accused devices are Coleman wall heaters models No. 64, 67, 68 and 69; that prior to November 2, 1953 these heaters manufactured and sold by Coleman were equipped with 4-foot economizers; that at all times from and after November 2, 1953 Coleman has not manufactured and sold such heaters equipped with its 4-foot economizer; that all wall heaters of these numbered models manufactured and sold by Coleman since November 2, 1953 have been equipped with a 3-foot economizer; that Coleman has manufactured and sold substantial numbers of its wall heaters models of the foregoing numbers with both the 4-foot economizer and the 3-foot economizer; that for a long time prior to the invention of the patent in suit, the thermal in-put of wall heaters could not be increased substantially without excessively heating combustible walls in which the heaters were installed, and that these hot walls were encountered in both the lower and upper portions of the wall between floor and ceiling adjacent to the heater; that wall heater manufacturers have no control of the height of flues attached to their heaters in buildings and that prior to the invention of the patent in suit, there was inadequate control of the amount of warm air sucked from the room into the flue from the draft hood and thus lost, with consequent decrease in heating efficiency; that the combination of elements described and claimed in the patent in suit cooperate to permit the thermal in-put of wall heaters to be increased without bringing about excessive wall temperatures at any point in the wall from floor to ceiling, and without reducing thermal efficiency of the wall heaters; and that the invention of the patent in suit has simultaneously solved the hot wall problem from floor to ceiling, increased thermal efficiency while permitting increased heat in-put, improved air circulation within the room, minimized heat loss due to warm air being sucked out of the room into the flue through the draft hood, and has rendered this heat loss substantially independent of flue height.

The Court further found: That it required the exercise of inventive faculty to invent the combination defined by each of claims 1, 2, 3 and 4 of Letters Patent No. 2,602,441 in suit; that the combination of elements defined by each of the said claims of the patent in suit cooperate to produce

a new and beneficial result unattained before the invention of said patent was made, and that the results of such combination exceed the accumulation of the results of the individual elements of such combination; that John H. Hollingsworth and Karl L. Bedell, who are named as the inventors in the patent in suit, are the original and first inventors of certain new and useful improvements in gas-burning wall heaters as claimed in each of the four claims above noted; that the Letters Patent in suit is valid as to each of the claims above referred to; that the disclosure contained in Letters Patent No. 2,602,441 in suit is sufficient to enable a person skilled in the art to which the patent pertains to accomplish the objects of the invention; that said Letters Patent is not ambiguous, incomplete, or insufficient, and the description of the invention filed in the Patent Office was not made to contain less than the whole truth relative to the alleged invention, nor was the description so filed made to contain more than was necessary to produce the desired results and the description of the invention was not designed to mislead the public as to its character; that each of the four claims of the patent in suit is supported by the specification in said patent and, construed in light of such specification, each of such claims particularly points out and distinctly claims the parts, improvements or combination of the invention and the inventions claimed in each of said four claims of said patent is not different from any inventions indicated, suggested, described or claimed in the application therefor.

The Court further found that the fourteen prior art patents introduced in evidence by Coleman for the purpose of showing that the invention of the patent in suit was anticipated by the prior art, taken either singly or in combination, do not describe a gas-burning wall heater wherein the principle, or mode of operation, or results attained are equivalent to those of the patent in suit; that all of said prior art patents, taken either singly or in combination, do not describe or suggest the group of cooperative elements described and claimed by the patent in suit; that out of these fourteen patents five were cited by the Patent Office in the file wrapper of the patent in suit but neither the remainder of said patents shown in said exhibits nor any

other prior art relied upon by defendant more nearly discloses the invention of the patent in suit than do the references cited by the Patent Office in the file wrapper of said patent; that none of the prior art references, taken either singly or in combination, anticipates the invention of the patent in suit which invention represents a new and useful improvement in wall heaters fired with gaseous fuel and has provided a substantial contribution to the art.

The Court further found: That the proceedings in the Patent Office had as to the application for the patent in suit, serial No. 222,500, before the court as an exhibit, or the file wrapper of the abandoned application, serial No. 157,670 filed April 24, 1950, and before the court as an exhibit, do not limit the scope of the four claims of the patent in suit above noted; that Holly made no admissions in either of said file wrappers which would restrict or limit the scope of the four said claims above noted; that prior to serving and filing the complaint herein Holly gave written notice of infringement to the defendant; that Coleman's wall heaters, Models No. 64, 67, 68 and 69 equipped with its 4-foot economizer, contain all the elements of each of the first four claims of the Letters Patent in suit; that Coleman's wall heaters, Models No. 64, 67, 68 and 69 equipped with its 3-foot economizer, exemplified by exhibits, contain all the elements of each of first four claims of the patent in suit, above noted; that Coleman undertook the manufacture and sale of its wall heaters, Models No. 64, 67, 68 and 69 after Coleman's New Products Committee and its design engineers had seen an exemplar of Holly's device which embodied the inventions of the patent in suit; that Coleman's wall heaters of the four models above noted manufactured and sold by Coleman prior to November 2, 1953 employed a 4-foot economizer which was adapted to receive air flowing upward outside the first box and inside the wall as taught and claimed by the patent in suit.

The Court further found: That after Holly had sent notice of infringement of the patent in suit to Coleman, it represented to Holly that it was redesigning the Coleman wall heaters, Models No. 64, 67, 68 and 69 to prevent the flow of air upward into the second box or economizer from the conduit provided outside the first box and inside the

wall, but that Coleman's redesigned wall heaters of these models which were manufactured and sold by Coleman on or after November 2, 1953 and which employed its 3-foot economizer, did not prevent such flow of air; that Coleman's wall heaters of the said four models and sold by it on or after November 2, 1953 employed its so-called 3-foot economizer which was adapted to receive air flowing upward outside the first box and inside the wall as taught and claimed by the patent in suit; that the upper radiator in all of said four models of the Coleman wall heaters, above mentioned, is made substantially smaller in horizontal cross section than the first radiator in such heaters in order to minimize loss of efficiency of the heater when warm air is drawn from the room through the draft hood to dilute the combustion products in the upper radiator; that all of Coleman's wall heaters of the four models above noted infringe each of the claims 1, 2, 3 and 4 of the Letters Patent of the patent in suit; that the inlet grilles on Coleman's devices contribute some air to the flow of air through Coleman's economizers as exemplified by exhibits; and that at best, such grilles function merely as an addition to the structure and do not avoid infringement.

The Court further found: That Coleman's infringement of the claims 1, 2, 3 and 4 of the patent in suit has been and is intentional, conscious and deliberate and that it threatens to continue to infringe said claims and will infringe them unless enjoined by the court; that all of Holly's wall heaters exemplified by its exhibits embody the inventions claimed by the patent in suit and that its manufacture and sale of wall heaters as exemplified by its exhibits has been commercially successful, and that Coleman has had substantial commercial success in the manufacture and sale of its four wall heaters models of the four numbers above mentioned; that Holly has committed no acts which prevent it from seeking or obtaining relief in a court of equity for infringement of its patent in suit.

The Issue of Infringement

In denying infringement appellant asserts in its brief that both of its models "are manufactured in accordance with

the patent of Browell" which shows "the same type of construction as used in both of appellant's heaters and teaches the art the use of such devices."

Appellant also urges that the description of the physical features found in the Hamilton fireplace is "the description of" the (appellant's) economizer.

As to the prior McLeod patent appellant tells us that in this device "the fireplace comprises a lower heater *differing* from the admittedly old lower heater of the patent in suit *only* in burning wood or coal rather than gas. There is a draft hood at the top of the fireplace and before the flue commences. *The flow of air in this economizer is identical with that of the patent in suit.* Air comes up around the lower fireplace box and then up around the *second heat exchanging box* and out adjacent to the ceiling of the room. This device adds to the efficiency of the fireplace by saving some of the heat passing up the flue and transmitting it to the room and it also reduces wall temperatures because of the cooling effect of this box. *The heat exchange box functions identically with the 'economizer' of the patent in suit.* In fact, it is an 'economizer' *and has the identical parts* as that of the patent in suit." It is further urged that the elements in the Holly device accomplish individually their purposes taught in the prior art and when combined accomplish the result that was old in the McLeod combination. (Emphasis supplied.)

In our view these contentions as to anticipation are adequately refuted by the physical construction and operation of these old fireplace devices to which we have previously referred at length.

In footnote one we have indicated the nature of the charge of infringement set forth in appellee's first supplemental complaint. As to appellant's two (3-foot and 4-foot) models there mentioned appellant contends at some length that certain air intake changes affecting the passage of air currents into the upper box from the floor level were made in its three-foot economizer model which caused it to operate differently than appellee's device, but concludes that "all of the evidence and reasons for lack of infringement that apply to the 4-foot economizer apply equally to the 3-foot

economizer." It admits that the amount of air that enters "either the 4-foot or 3-foot economizer from the space around the lower heater is a matter of direct dispute." The lower court quite evidently refused to accept the version of appellant on this particular fact question and we find no reason to quarrel with this decision.

A careful consideration of the entire record (including exhibits) convinces us that all of the essential parts and elements of appellee's device have been, with immaterial variances, faithfully copied by appellant in constructing its various models here claimed to infringe appellee's patent. There is most persuasive evidence in the record to sustain this conclusion. Aside from all of the other evidence adduced the record reveals that it was not until after Holly's new wall heater with its "secondary heat exchanger" was on the market and enjoying commercial success that Coleman undertook the design of the claimed infringing devices. At that time the Holly heater was the only one on the market employing such an "exchanger." Furthermore, the many admissions by appellant in response to requests for admissions serve to reveal (save in what we regard as immaterial variances in construction claimed to affect the passage of air from the bottom of the competing devices) that the Coleman devices contain all of the elements called for by claims 1 through 4 of the patent in suit. We think these slight variations do not serve to show that the accused Coleman devices do not function as taught by the Holly invention.

At trial a witness for appellee was questioned regarding certain statements appearing in a deposition of one Giwosky, the design engineer in charge of the project to design the accused Coleman devices. The reference to the Giwosky statement appears in redirect examination by Mr. Hoegh, appellee's counsel, the questions and answers concerning his statements being as follows:

> "Q. Mr. Giwosky, when you designed the Coleman heaters, Nos. 64, 67, 68 and 69, had you seen a Holly heater with a secondary heater exchanger?
>
> "A. Yes.
>
> "Q. And had you seen the Holly patent, which is in issue here? Are you familiar with the patent?

"A. No, I am not too familiar with the patent. I don't understand too much about them.

"Q. Had you seen the patent at the time you made the design?

"A. No, I don't believe so.

"Q. But you had seen the heater?

"A. Yes.

"Q. That is, the one that has, what Holly refers to, the secondary heat exchanger?

"A. Yes. It is our practice to get all our competitors' heaters in; we make it a business to get every heater.

"Q. Did any other heaters come on the market with a secondary heat exchanger?

"A. Not to my knowledge.

"Q. Holly was the only one?

"A. As far as I know, that is right."

"Mr. Hoegh: Would you stipulate Mr. Giwosky was the design engineer in charge of the project to design the Coleman wall heaters with the economizer?

"Mr. Lyon: [for appellant] I will stipulate to that.

"Mr. Hoegh: That will be satisfactory."

The three prior fireplace patents above discussed and heavily relied on by appellant represent earlier concepts of heat conveyance through the use of such fireplaces, but in devising their apparatus the Holly patentees clearly appear to have parted company with the basic design portrayed by these concepts to create something new in overall construction and functional operation—a compact unitary wall device which could easily be adapted to the modern pattern and mode of living under conditions of urban life (or where gas would be available) and where an effective and reliable single-room gas-burning heater device would be highly desirable and certainly very useful.

We find no merit in appellant's claim of non-infringement in the manufacture and sale of its devices. The lower court did not err in finding that all of appellant's wall heater models Nos. 64, 67, 68 and 69 infringe each of claims 1, 2, 3 and 4 of Letters Patent No. 2,602,441 in suit; that such infringement has been and is intentional, conscious and delib-

erate, and that the infringement will continue unless enjoined by the court.

THE ISSUE OF EQUITABLE RELIEF

As respects the last finding of the court above noted relative to certain claimed acts of Holly wherein the court found that Holly was not deprived of a right to seek and obtain relief, appellant avers that Holly came into court with unclean hands because on February 13, 1954, it published in a Denver, Colorado trade journal available to the construction industry an article stating that "Holly has won four previous suits contesting Coleman's heat economizer ideas, claiming they were developed from Holly's principals." It is urged that this publication was a libel since it purported to quote one Gressett, a manufacturer's representative for Holly.

The lower court was informed, and the parties agreed, that the case at bar was the first and only lawsuit over the Holly patent. The record shows that on March 3, 1954 the same trade publication published a retraction by Gressett of the statement attributed to him in its issue of February 13, 1954. In this retraction Grassett stated that the story about Holly winning four previous suits was erroneous but that an infringement action (the one at bar) was then being prosecuted in the Federal District Court.

The specific contention pressed on us is that the subsequent retraction "was not of the same type" as the libelous one since it appeared "on an interior page of a later journal." On the record before us we cannot conclude that the court erred in its finding on this issue.

The parties had a fair trial in which the court met and correctly disposed of all pertinent and material issues of law and fact. Its judgment is affirmed.

(Endorsed:) Opinion. Filed Apr. 10, 1956.

Paul P. O'Brien, Clerk.

UNITED STATES COURT OF APPEALS FOR THE NINTH CIRCUIT

No. 14711

THE COLEMAN COMPANY, INC., a Corporation, *Appellant*,

vs.

HOLLY MANUFACTURING COMPANY, a Corporation, *Appellee*.

JUDGMENT

Appeal from the United States District Court for the Southern District of California, Central Division.

This cause came on to be heard on the Transcript of the Record from the United States District Court for the Southern District of California, Central Division, and was duly submitted.

On consideration whereof, it is now here ordered and adjudged by this Court, that the Judgment of the said District Court in this cause be, and hereby is affirmed.

(Endorsed:) Judgment. Filed and Entered: April 10, 1956. Paul P. O'Brien, Clerk.

Excerpt from Proceedings of Tuesday, July 31, 1956

Before: HEALY, BONE and CHAMBERS, Circuit Judges

ORDER DENYING MOTION TO REMAND AND PETITION FOR REHEARING

On consideration of the motion of Appellant to remand the cause for further trial, and petition for rehearing filed May 9, 1956, and on opposition of Appellee thereto, and good cause appearing therefor,

It Is Ordered that the motion to remand for further trial, and petition for rehearing, be, and each of them hereby is denied.

PLAINTIFF'S EXHIBIT 1

J. H. Hollingsworth, et al., Patent in Suit
No. 2,602,441

Filed April 23, 1951 Patented July 8, 1952

Reproduced in Record, p. 739
In Evidence, p. 47

July 8, 1952 J. H. HOLLINGSWORTH ET AL 2,602,441

GAS-BURNING WALL HEATER

Filed April 23, 1951

2 SHEETS—SHEET 1

FIG. 1

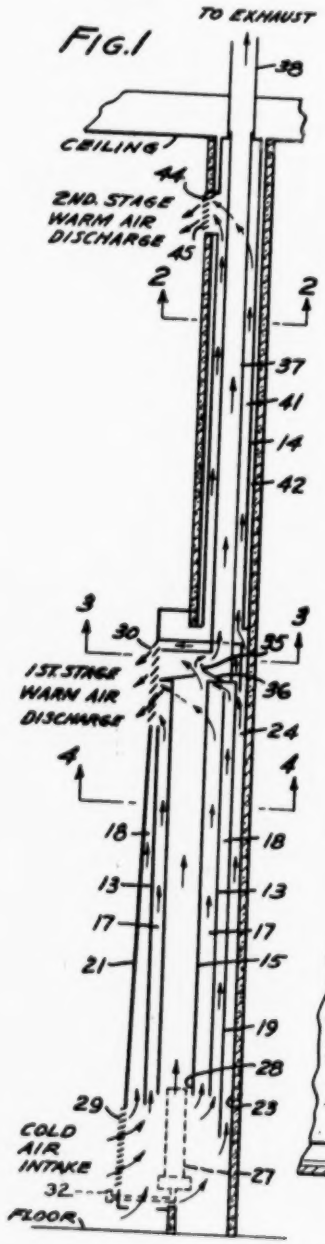


FIG. 2

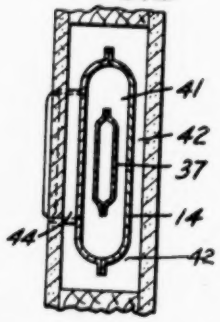


FIG. 3

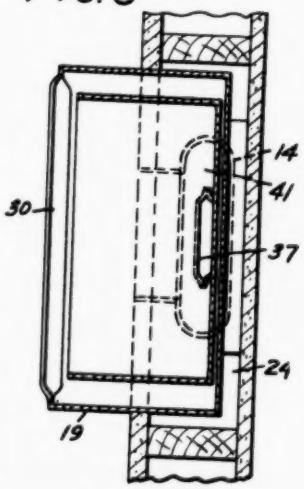


FIG. 5

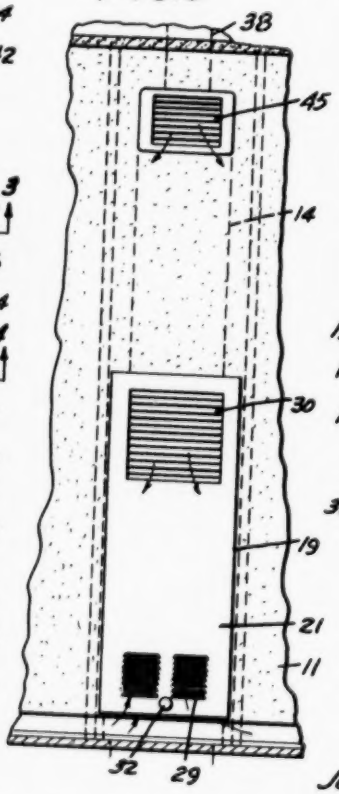
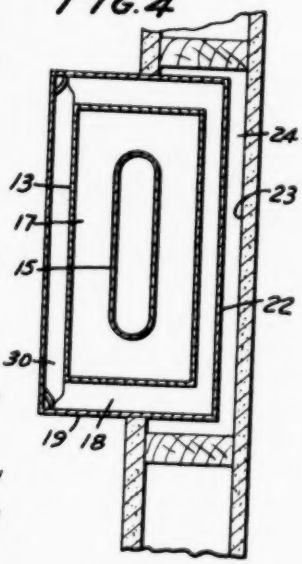


FIG. 4



INVENTORS:
JOHN H. HOLLINGSWORTH,
KARL L. BEDELL,
BY James O. Christie
ATTORNEY.

July 8, 1952 J. H. HOLLINGSWORTH ET AL 2,602,441

GAS-BURNING WALL HEATER

Filed April 23, 1951 2 SHEETS—SHEET 2

FIG. 6.

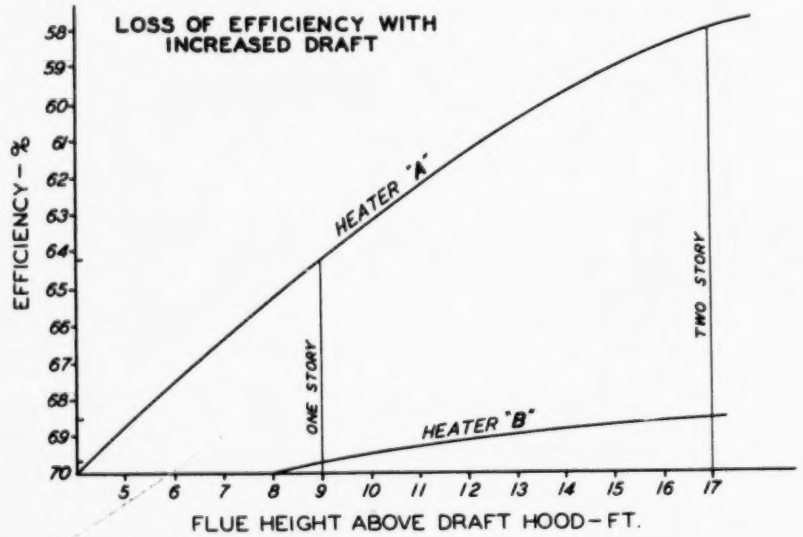
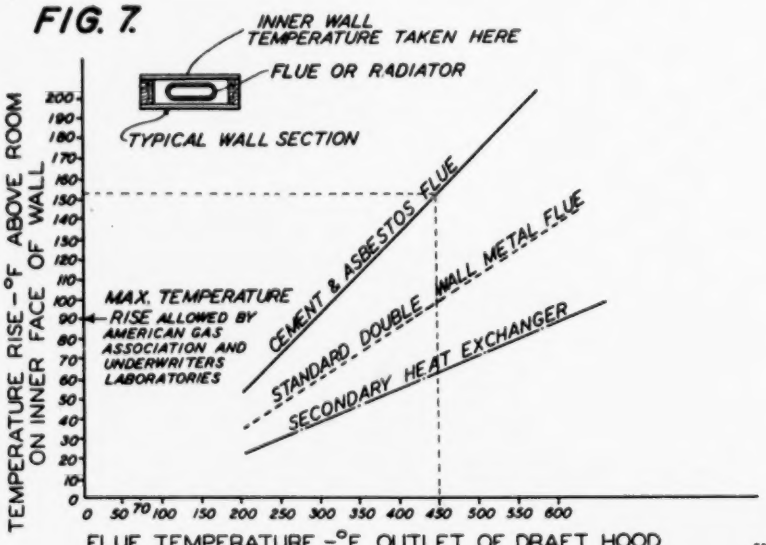


FIG. 7.



INVENTORS.
JOHN H. HOLLINGSWORTH
KARL L. BEDELL
BY
James B. Chester
ATTORNEY

PAGE BOUND VERTICAL IN BOOK

Patented July 8, 1952 2,602,441

UNITED STATES PATENT OFFICE

2,602,441

GAS-BURNING WALL HEATER

John H. Hollingsworth, Altadena, and Karl L. Bedell, Pasadena, Calif., assignors to Holly Manufacturing Company, Pasadena, Calif., a corporation of California

Application April 23, 1951, Serial No. 222,566

5 Claims. (Cl. 126—116)

1

This invention is concerned with wall heaters fired with gaseous fuel and provides improvements therein to the end that thermal efficiency and air circulation are increased and undesirable heating of the wall is avoided.

This is a continuation-in-part of our co-pending application Serial No. 157,670, filed April 24, 1950, now abandoned.

Wall heaters are employed widely, especially in areas where gaseous fuel is cheap. They offer a number of advantages. They are relatively inexpensive to build and simple to install. If properly constructed, say in accordance with the standards of the American Gas Association, they are safe. They are relatively economical in operation and heat space quickly—an advantage in climates where the mornings or nights are cool but the days are relatively warm. But there are disadvantages. Conventional wall heaters tend to produce high wall temperatures above the heater and adjacent the flue, and this is so even when the installation meets the requirements of the Underwriters' Laboratories and presents no fire hazard. High wall temperatures, even in the absence of fire hazard in the wall, evidence a heat loss in the flue. Even when this loss is not excessive, the customer reaction is poor. If an effort is made to lower the wall temperature by bleeding air into the flue, the resulting heat loss, though apparently lower, may actually be increased.

A conventional wall heater comprises a tall shallow box set in a wall of a room to be heated. The box may be open at the front, but customarily is closed except for grills at top and bottom through which the air from the room to be heated circulates. A tall hollow radiator is set in the box and is fired inside with gaseous fuel. Air rising through the box is heated by the radiator and passes out into the room. Heat not transferred by the radiator remains in the gaseous products of combustion and is wasted up the flue connected to the top of the radiator.

A draft hood or diverter may be connected in the flue above the radiator. This has a relief outlet, usually into the room through the box in which the radiator is disposed, and serves several purposes. If the flue should become choked, the flame in the radiator will not be blown out and the gaseous combustion products will escape through the relief outlet. If a down draft should develop in the flue, the same results will follow. On the contrary, if an excessive up-draft should exist due to an excessively high chimney or flue, or should develop temporarily due to a high wind,

2

air from the room will be sucked into the flue from the relief outlet and the relief outlet will thus prevent the excessive draft from interfering with proper combustion in the radiator.

For safety's sake, a wall heater of the type described is so designed that, even with only the four foot flue employed in American Gas Association tests, a considerable volume of warm air will pass continuously into the flue through the relief outlet from the room. With the taller flues customarily used even in one story houses, this volume is increased. A two story flue still further increases the draft and the amount of warm air lost up the chimney or flue. The warm air sucked into the flue through the draft diverter thus represents a constant and substantial heat loss, which increases as draft is increased.

As indicated at the outset, the flue above the radiator tends to heat the wall in which it is enclosed. The more the fuel burned, the hotter the flue gas, the hotter the wall and the greater the loss of heat up the flue. In cold weather, the wall may become unpleasantly if not dangerously hot due to the large amount of fuel burned, and this hot wall condition is accompanied by increased loss of heat up the flue. If an attempt is made to reduce the wall temperature by bleeding in air from the draft diverter, a lower wall temperature is obtained but only at the expense of a still further decrease in heating efficiency.

As a result of our investigations we have developed a wall heater which

(*a*) eliminates high wall temperature;

(*b*) does so without decreasing heating efficiency and in fact with a substantial increase in heating efficiency;

(*c*) increases air circulation in the room in which the heater is installed; and

(*d*) can be installed with flues which normally would produce excessive draft, without deleterious effect upon heating efficiency, so that the heater is adaptable to a greater variety of draft conditions than conventional heaters while keeping heating efficiency high.

In accordance with our invention, a wall heater is constructed in two sections. The lower section comprises a gas-fired hollow radiator disposed in a box in the wall of a room immediately above floor level. The upper section is likewise a radiator disposed in a box in the wall and placed above the first radiator but mainly below the ceiling. The two radiators are connected in series. Gas is burned in air in the first radiator and the resulting flue gases rise through the

PAGE BOUND VERTICAL IN BOOK

second radiator and are discharged into a flue connected to its top.

No damper or the like for constricting the flow of the flue gas through the two radiators is provided, and a draft diverter is connected between the two radiators, instead of at the flue, as is customary. This diverter has its relief opening into the room, preferably through the box in which the lower radiator is placed.

Air to be heated is admitted into the lower portion of the box from the room, rises along the lower radiator and is discharged into the room at the top of the box. Air from floor level in the room is passed upward through a separate conduit into the bottom of the upper box in which the second radiator is disposed. Preferably this separate conduit is disposed around the sides or back or both of the lower box. Air introduced by the conduit into the upper box rises along the second radiator and is discharged into the room through an outlet in the upper box near the ceiling.

The second radiator preferably is formed as a unit with its box, and spaced from the upwardly extending walls of the box. Box and enclosed radiator are thus installed together in the wall, preferably with an insulating space in the wall outside the box.

In the heater just described the horizontal cross section of the second radiator is considerably smaller than that of the first, and is designed so that a normal draft with a very short flue will barely cause air to be drawn into the system through the draft hood and so that increase in chimney effect does not increase dilution through the draft hood to a substantial degree.

The reasons for the structure just described and the results thereof are as follows:

Draft is what tends to make gas move upward through a flue and is the result of a pressure differential, i. e. the difference in the density of the column of gas in the flue and a like column of equal height outside. Hence theoretically available draft is a function of flue height and flue temperature. Although the theoretically available draft is a measure of static condition and is never fully obtained due to frictional losses in the flue, the actual draft at any flue temperature is still closely related to the flue height and any increase in that height will cause the flow of gas to increase until the total energy loss of the system equals the theoretically available draft.

The function of the draft hood or diverter in the device of the invention is to stabilize draft conditions existing within the lower radiator regardless of variations in draft conditions above it. This is accomplished by placing suitable baffles in the draft hood (so as to direct the flow of gas properly) and by the vent which provides a source of relief air. The draft hood does not control the draft action established within the flue but only its effect on the combustion zone in the lower radiator.

Draft in a flue may be controlled satisfactorily and safely in many instances by a damper. They have been used for many years in the flues of fireplaces. Adjustable dampers, however, are not satisfactory in the flue of a gas-burning device, because of the possibility of asphyxiation. Recognized testing agencies and governmental bodies condemn them, and they are forbidden in many places by building codes and ordinances.

Frictional resistance to laminar flow is essentially proportional to the velocity of such flow. But under conditions of turbulent flow resistance to flow is more nearly proportional to the square of the velocity. Consequently, if the horizontal cross section of the upper radiator is constricted, preferably until turbulent flow conditions obtain, a large increase in draft, say due to a tall chimney or a high wind, will have a minimum effect at the draft hood below the radiator. Hence the suction at the relief opening of the draft diverter tends toward a constant value. If the system is designed so that it barely draws in air through the draft hood with a short flue (say one four feet high) it will pull only a slightly greater proportion if the flue height is increased. Loss of heat by leakage through the draft hood into the second radiator may thus be held at a low figure even if the wall heater is installed with a flue system that creates excessive draft, and heating efficiency is thereby improved.

In other words, the cross section of the second radiator is chosen so that as a conduit it will just handle the maximum products of combustion to be conducted in the first radiator, with scarcely any dilution through the draft hood. With such a design, a marked increase in draft will produce a minimum increase in draft at the base of the second radiator, and hence a minimum increase in dilution through the draft hood.

By drawing the cold air up around the sides or the back, or both, of the lower box, the neighboring wall surfaces are cooled and more fuel may be burned safely without attaining excessive lower wall temperatures. Hence, the heating capacity of the apparatus is increased. Moreover, the air for the upper heat exchange, because it is drawn from a low level has a lower temperature, so that the heat transfer from the upper radiator is increased. In this way the amount of heat imparted to the air passed through the upper box (i. e. in the conduit around the upper radiator) is increased, with a resulting improvement in over-all heating efficiency. Third, the use of cold or low level air as feed to the secondary heat exchanger makes it possible safely to encase this secondary heat exchanger in a combustible wall. Fourth, the structure of the invention is such that the hotter air is brought out into the room at an intermediate level while cooler but still warm air is introduced into the upper part of the room near the ceiling, thus reducing stratification and increasing air circulation in the room.

The over-all effect of the application of the invention is striking. In actual tests it raised thermal efficiency by more than 10%, increased the volume of warm air circulated in the room by approximately 25% and reduced upper wall temperature from about 150° F. above room temperature to about 90° F. above room temperature. At the same time, the cost of the secondary heat exchanger employed was but little more than that of the flue section which it replaced.

The foregoing and other aspects of our invention will be understood more thoroughly in the light of the following detailed description, taken in conjunction with the accompanying drawing in which:

Fig. 1 is a diagrammatic sectional elevation of a presently preferred embodiment of the wall heater of our invention;

Figs. 2, 3 and 4 are cross sections taken respectively along the lines 2—2, 3—3, and 4—4 of Fig. 1;

PAGE BOUND VERTICAL IN BOOK

Fig. 5 is a front elevation of the wall heater of Fig. 1;

Fig. 6 is a graph of the results of tests conducted to determine the relative heating efficiency of conventional wall heaters and that of the invention for various chimney or flue heights, thermal input being the same in all cases; and

Fig. 7 is a plot of wall temperatures against flue temperatures obtained in testing wall heaters of the invention, as compared with similar plots for conventional heaters equipped in one case with an accepted composition flue (Portland cement-asbestos) and in the other with a standard double wall metal flue.

Figs. 1 and 5 show a wall heater set in a wall 11 of a room and having two separate chambers 13, 14, one disposed above and offset centrally of the other.

The lower chamber 13 is a tall shallow box or jacket, set upright in a recess of the wall. The box is rectangular in section both horizontally and vertically. A hollow radiator or heat exchanger 15 preferably made of a black surfaced metal and of considerably smaller horizontal cross section than the jacket, is disposed centrally of the jacket in an upright position. There is an inner annular air space 17 between the jacket and radiator, and a second outer annular air space 18 between the jacket and an encompassing heat conductive shell 19. The shell is box shaped and of greater cross sectional dimensions than the jacket which is disposed centrally within it. The shell has a front side 21 exposed to the room and an opposite rear side 22 spaced from the back wall 23 of the recess, leaving an air space or conduit 24 behind it.

Neither the jacket nor radiator extends to the bottom of the shell as shown in Fig. 1. However, the jacket could extend to the bottom if it were provided with a series of ports for circulation of air.

A gas burner 27 at the bottom of the shell is so placed that it projects flaming gases into the open bottom of the radiator.

The front of the shell is provided with two spaced sets of louvers 29, 30. Relatively cold air is drawn into the chamber through the lower louvers, near the floor, and discharged as heated air to the room through the upper set of louvers, adjacent the top of the shell and about midway up the wall. The air may rise through either the annular space 17 defined by the heat exchanger and jacket or between the jacket and the shell in the space 18 or between the shell and the wall in the space 24, with the combustion gases ascending through the interior of the hollow heat exchanger. The lower jacket or chamber does not extend to the top of the shell and hence hot air rising in the jacket may escape into the shell, and thence to the room through the upper set of louvers. The outer annular air space 24 serves primarily as an insulating chamber, protecting the rear wall of the recess and the sides of the shell from excessive heat. The gas burner is provided with a pilot light (not shown) and is controlled by manipulation of a knob 32 on the front of the shell.

The primary heat exchanger opens into the base of a draft hood 35 having a diverter 36. A second radiator 37 is connected to the top of the draft hood. The second radiator opens into a flue 38 through which the combustion gases are exhausted to the outside. The second radiator, like the first, is oblong in section and is

constructed of a dark surfaced heat radiating metal. Save for the lower end which extends into the recess, the second heat exchanger is completely enclosed in the upper wall in an upright position.

The second box or jacket 14 is completely enclosed in the upper wall and is centrally disposed around the second radiator to which it is attached. The second jacket extends from the top of the recess to the ceiling of the room, forming two annular air spaces, a first air space 41 (see Figs. 1 and 2) between the jacket and the radiator and a second air space 42 between the jacket and the interior surfaces of the wall. The air space 24 defined by the outer wall of the shell and the inner surface of the back wall of the recess opens into the air space 41 between the upper jacket and second radiator.

Air heated by the upper radiator and rising through the air space 41 is discharged into the room through a lateral duct 44 connecting the jacket to the louvers of a register 45 set flush in the wall near the ceiling of the room. The outer air space 42 between the jacket and the interior surfaces of the wall aids in preventing excessive heating of the wall.

As shown plainly in Fig. 2, the chamber and the radiator of the secondary heat exchanger are of flattened cross section, both being considerably shorter transverse to the wall than parallel to the wall. Conveniently, both radiator and shell or jacket are made of opposed sheet steel halves welded together along lapped flanges. The flattened section of the exchanger is useful in that it permits large heat exchange capacity to be installed in a relatively thin wall. The radiator is substantially smaller in cross section than the lower or primary radiator.

The operation of the apparatus described in conjunction with the drawings is as follows:

Gas is burned in the lower radiator. This gas may attain a temperature adjacent the burner as high as 2000° F. The hot gases of combustion rise through the radiator and the draft hood into the second radiator and thence are exhausted to atmosphere. The hot gases in rising through the lower radiator decrease in temperature to about 650° F. This temperature is reduced slightly in the draft hood. The temperature of the gases leaving the upper end of the second radiator is about 450° F. Air enters the space in the lower heat exchanger around the radiator at floor level and at a temperature of about say 70° F. In passing up through the jackets in the lower exchanger the temperature of this air is increased to about 375° F., at which temperature it is discharged into the room through the middle louver.

Cold air, say at about 70° F., passes up from the floor level to the box surrounding the second radiator through the wall and in passing to the upper louver (of the second heat exchanger) adjacent the ceiling attains a temperature of 165° F., at which temperature it is discharged.

Extensive tests have been made to determine quantitatively the effect of the heater of the invention on heating efficiency and wall temperature. These results are summarized in Figs. 6 and 7 and there compared with heating efficiency and wall temperatures observed with conventional wall heaters of high quality under like conditions.

Fig. 6 illustrates the effect of draft (chimney action) upon heating efficiency with conventional wall heaters and those of the invention. The

PAGE BOUND VERTICAL IN BOOK

figure has a plot of heating efficiency against flue height for heater A, which represents the average values obtained in actual tests with a number of makes of heaters disposed in a wall, with a suitable draft hood at the top of the heater and about half-way up the wall in each case at which point it was connected to a standard flue section, the height of which was increased as shown in order to increase the draft stepwise. The line marked "Heater B" is a plot of actual efficiencies obtained with the heater illustrated in Figs. 1 to 5, as with the conventional flue section immediately above the draft hood of heater A replaced by a secondary heat exchanger. The radiator of this second exchanger was of uniform but small horizontal cross section so that with the shortest flue height, the draft hood barely drew air. Both heaters A and B burned fuel equivalent to 25,000 B. t. u./hr.

Fig. 6 shows plainly that the heater of the invention is superior to the conventional gas-fired wall heaters irrespective of flue height, and that as flue height and draft are increased the superiority of our heater becomes more marked. Stated in another way, the heater of the invention has a high thermal efficiency which decreases only slightly as draft increases, whereas the conventional heater has a lower efficiency to start with and this initial lower efficiency becomes sharply worse as flue height is increased.

Fig. 7 illustrates the decrease in wall temperature in the neighborhood of a wall heater brought about by the invention. In the figure, flue temperature is plotted against upper wall temperature for (1) a conventional wall heater extending about halfway up the wall of a room, with a draft hood at the top and a standard "composition" flue of cement and asbestos in the wall above it; (2) the same conventional heater with the same draft hood but employing a standard double wall metal flue in the wall; and (3) the heater of the invention, similar to the other two heaters except that the flue sections were replaced by a secondary heat exchanger in the wall fed with air from floor level and discharging at ceiling level, as illustrated in Figs. 1 to 5.

Irrespective of flue temperature, wall temperatures with the apparatus of the invention are consistently lower than those obtaining when conventional heaters with either of the usual flue types are used. This means that in times of very cold weather, when the demand is high, the heater of the invention may be called upon to burn a great fuel load safely, something that cannot be said of the other heaters. It also means that under normal conditions, no annoying "hot wall" conditions are obtained.

We claim:

1. In a wall heater for burning gas, the combination which comprises a first box adapted to be mounted in a wall of a room to extend upward therein from a level near the floor of the room to a level part way to the ceiling, a first hollow radiator mounted in the box and spaced from the walls thereof, means for burning fuel in the first radiator, means connected to the lower portion of the first box for introducing air thereinto near the floor of the room, means connected to the upper portion of the first box for discharging air into the room from the box near its top, a second box adapted to be mounted in the wall above the first box to extend from a level just above the first box to a level near the ceiling, a second hollow radiator disposed in the second box and spaced from the walls thereof, the horizontal cross section of the second radiator being substantially smaller than that of the first radiator, means connected with the upper portion of the second box for discharging air from the second box into the room just below the ceiling, a draft hood provided with a relief opening into the room and connecting the top of the first radiator with the bottom of the second radiator, said second hollow box having an inlet opening adjacent the bottom thereof and adapted to receive air flowing upward outside the first box and inside the wall, and a flue connected to the top of the second radiator.

2. Apparatus according to claim 1 provided with a baffle disposed in the first box behind the first radiator and spaced from the radiator and also from the rear wall of the box.

3. Apparatus according to claim 1 provided with a baffle disposed in the first box behind the first radiator and spaced from the radiator and also from the rear wall of the box to provide a conduit between the rear wall of the box and the baffle, said conduit being open at the bottom and also at the top and in communication at the top with the interior of the first box.

4. Apparatus according to claim 1 in which the second radiator is composed of a shallow front member and a shallow rear member.

5. Apparatus according to claim 1 in which the second box is composed of a shallow front member and a shallow rear member.

JOHN H. HOLLINGSWORTH.
KARL L. BEDELL.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,361,389	McLeod	Dec. 7, 1920
1,698,775	Traut	Jan. 15, 1929
2,453,954	Wright	Nov. 16, 1948
2,484,457	Marble	Oct. 11, 1949
2,487,775	Cartter	Nov. 8, 1949

PAGE BOUND VERTICAL IN BOOK

DEFENDANT'S EXHIBIT C

A. D. McLeod Patent of Prior Art

No. 1,361,389

Filed September 3, 1919 Patented December 7, 1920

Reproduced in Record, p. 839

In Evidence, p. 295

A. D. McLEOD.

AUXILIARY FIREPLACE HEATER.

APPLICATION FILED SEPT. 3, 1919.

39

1,361,389.

Patented Dec. 7, 1920.

2 SHEETS—SHEET 1.

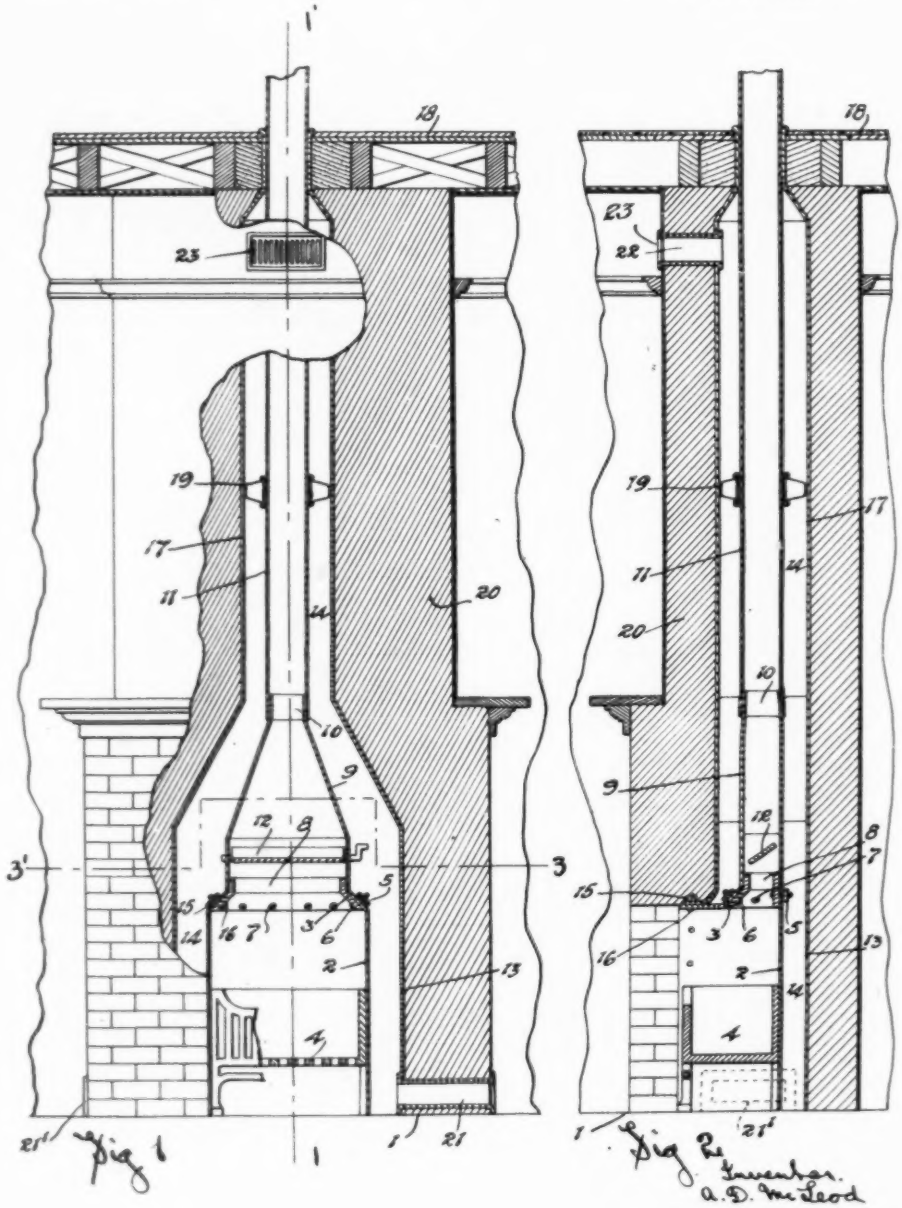


Fig 1

Fig 2

Inventor.
A. D. McLeod
By Kenwood Taylor & Co.
Attys

A. D. McLEOD.

AUXILIARY FIREPLACE HEATER.

APPLICATION FILED SEPT. 3, 1919.

1,361,389.

Patented Dec. 7, 1920.

2 SHEETS—SHEET 2.

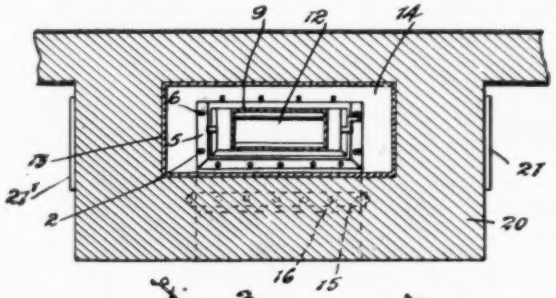


Fig 3

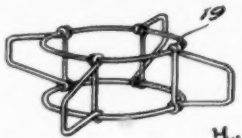


Fig 7

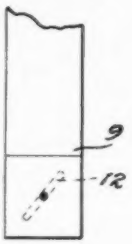


Fig 6

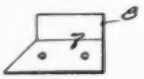


Fig 5

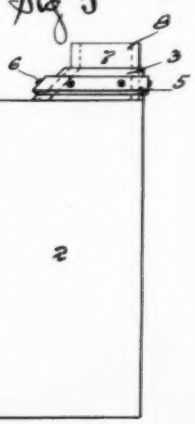


Fig 4

Inventor
A. D. McLeod
By Fetherstonhaugh & Co.
Attys

PAGE BOUND VERTICAL IN BOOK

UNITED STATES PATENT OFFICE.

ALEXANDER DUNCAN McLEOD, OF ARCOLA, SASKATCHEWAN, CANADA.

AUXILIARY FIREPLACE-HEATER.

1,361,389. Specification of Letters Patent. Patented Dec. 7, 1920.

Application filed September 3, 1919. Serial No. 321,505.

To all whom it may concern:

Be it known that I, ALEXANDER DUNCAN McLEOD, of the town of Arcola, in the Province of Saskatchewan, Canada, have invented certain new and useful Improvements in Auxiliary Fireplace-Heaters, of which the following is the specification.

The invention relates to improvements in auxiliary fireplace heaters and the general object of the invention is to provide a device designed to conserve and utilize the ordinary wasted heat in open fireplaces and thereby increase their heating capacity as a heating agent.

A further object is to provide a construction accomplishing the above object which can be readily installed when the fireplace is being built, requiring no change in the exterior appearance of the fireplace and in no wise decreasing its beneficial value as an open grate fire.

A further object is to arrange the parts so that they can be readily assembled and set up.

With the above more important objects in view the invention consists essentially in providing a hot air chamber around the fire box and pipe leading from the fire box and providing suitable air vents in connection with the air chamber to permit of the circulation of the air heated by the chamber within the adjacent room or rooms, the parts being arranged and constructed as hereinafter more particularly described and later pointed out in the appended claim, reference being had to the accompanying drawings in which:—

Figure 1 is a view of a fireplace part in front elevation and part in vertical section.

Fig. 2 is a vertical sectional view through the fireplace, the section being taken at 1—1′ Fig. 1.

Fig. 3 is a horizontal sectional view through the fireplace, the section being taken at 3—3′ Fig. 1.

Fig. 4 is a side view of the fire box with the collar applied thereon.

Fig. 5 is a side view of the collar.

Fig. 6 is a side view of part of the hood.

Fig. 7 is a perspective view of one of the spacers for the pipe.

In the drawings like characters of reference indicate corresponding parts in the several figures.

The base 1 of the fireplace is made from cement as is customary and on this base the other parts are built up. 2 is the fire box which has the bottom thereof set in the cement base and is provided with an open front as customary and has the top part thereof at the back provided with an upwardly extending neck 3, the sides and front of the neck inclining upwardly at an angle of approximateiy 45 degrees while the back is vertical. Within this fire box the customary grate 4 is located. To the neck I securely rivet a circumscribing flat band 5 and then I drill suitable holes through the band and neck and tap these to receive set screws 6 which secure the collar 7 to the neck. The collar is formed with a bottom part complementary to the inner face of the neck and with an extending upstanding flange 8 which projects upwardly beyond the neck.

By providing the band and tapping it in the manner disclosed one can readily set up the collar by first inserting it in position within the neck and then inserting the screws from the inside and tightening them up.

The flange of the collar receives the hood 9, the bottom part of which is substantially rectangular to fit around the flange and the upper part of which flares upwardly and inwardly at the sides and terminates in a contracted circular end 10 which communicates with the lower end of the smoke pipe 11, this pipe passing upwardly of the building and terminating at the chimney. The lower part of the hood is fitted with a damper 12 of ordinary form which can be manipulated from the interior of the room.

The fire box and hood are contained within a receiving casing 13 spaced at the back and sides from the fire box and hood to provide an interior air chamber 14 utilized for heating purposes.

At the front the casing is flanged out around the front of the fire box and a flat band 15 is here also applied on the flange to which it is riveted and the band is drilled and tapped to receive fastening set screws 16 similar to screws 6. The upper part of the casing flares inwardly at the sides and is continuous with a sheet metal pipe 17 spaced from the pipe 11 to form a continuation of the chamber 14. In Figs. 1 and 2 of the drawings the pipe 17 is shown as extending upwardly to the first

PAGE BOUND VERTICAL IN BOOK

EXHIBITS

DEFENDANT'S EXHIBIT T

Brochure "The New QC Metalbestos Wall Heater, Vent Assembly"

Williams-Wallace Company
160 Hooper Street
San Francisco, California

Reproduced in Record, p. 941
In Evidence, p. 146

floor 18 of the room where it closes in to the pipe 11 and thereby closes off the upper end of the air chamber.

Suitable spiders or spacers 19 are inserted between the pipes, such in the present instance being made from wire (see Fig. 7) so that they will not interrupt the circulation while serving to space and stay the inner pipe.

The pipe 17 actually forms a lining to the ordinary brickwork 20 of the chimney and fireplace.

From the above disclosure it will be apparent that the fire box as well as the smoke pipe 11 leading from the fire box is surrounded within the wall by an air chamber, the air in this chamber being naturally heated by the heat radiating from not only the back and sides of the fire box but also from the smoke pipe. The hot air chamber so provided is utilized to advantage in heating the room, cold air vents 21 and 21′ being provided adjoining the ground floor to admit of cool air entering the bottom of the air chamber while a hot air vent 22 is provided at the top adjacent the ceiling, such permitting the hot air to pass from the air chamber into the room.

Obviously when the fireplace is in use the circulating heated air will add materially to the value of the fire place as a heating agent and will not detract in the slightest from its value as an open grate. The vent opening 22 can be provided with a suitable register 23 controlling the circulation.

While I have described the various parts in detail, still it will be understood I do not wish to be limited to the precise construction shown as the various parts can be readily modified without in the least departing from the spirit of the invention which resides principally in the provision of a heating chamber surrounding the fire box and the smoke pipe and suitable inlet and outlet vents connecting with the chamber and arranged to effect an auxiliary air circulation within the adjacent room or rooms.

What I claim as my invention is:—

In an open grate fireplace, a fire box provided at the top and toward the rear with an upwardly extending neck, a band permanently secured to the outer side of the neck, said band and neck being provided with suitably spaced screw threaded openings, a collar inserted within the neck and extending above the same, screws securing the collar through the casing to the band, an upwardly flaring hood having the lower end mounted on the collar, a smoke pipe communicating with the upper end of the hood, an inclosed air chamber surrounding the fire box and smoke pipe, said air chamber extending for a considerable distance up the smoke pipe, a cold air vent opening to the bottom of the air chamber and a warm air vent leading from the top of the air chamber.

Signed at Arcola, this 4th day of August, 1919.

ALEXANDER DUNCAN McLEOD.

In the presence of—
NELLIE HOEY,
H. J. DARRACH.

PAGE BOUND VERTICAL IN BOOK

COOL WALLS WITH NEW QC METALBESTOS VENT ASSEMBLY

The famous Metalbestos double wall gas vent and flue pipe used in this new wall heater vent assembly keeps surrounding wall temperatures down to a minimum.

High temperatures close to wall heater flue pipes need no longer be tolerated. The possibilities of cracking plaster, peeling paint or discolored wall paper are eliminated.

The new Metalbestos wall heater vent assembly installs easily inside a 2 x 4 stud wall and overcomes these problems by affording maximum insulation from flue gas temperatures. It is a factory-assembled unit combining a section of double wall oval aluminum pipe, a bottom shoe for easy connection to the appliance header plate, and a top adapter. Round QC Metalbestos flue pipe attaches to this top adapter and continues up through the attic and roof.

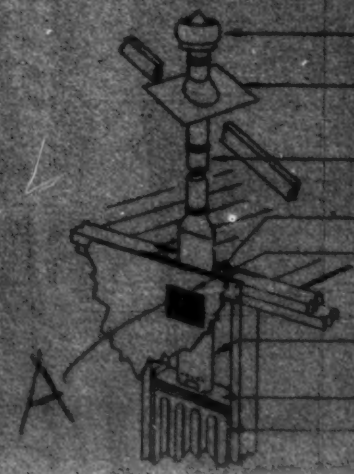
Available in 4 inch oval size in 3, 4 and 5 foot lengths.

(Length refers to the oval section not including the top adapter. The oval size designation refers not to any dimension of the oval, but rather to the equivalent round flue pipe size.)

EASY INSTALLATION — More easily installed than any other gas vent and flue pipe, the Metalbestos wall heater vent assembly and successive flue pipe sections slip together precisely. QC Metalbestos requires no cutting, crimping, hole punching or tedious fitting.

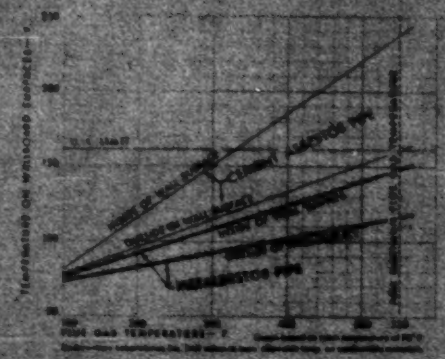
INSTALLATION INSTRUCTIONS

- Select proper oval flue pipe length as determined by ceiling height and type of heater.
- Set wall heater vent assembly in place on top of steel header plate, which normally will have lugs or other provisions for holding the flue pipe in place.
- To the top coupling, connect the first section of round QC Metalbestos flue pipe. Then each successive section is attached in these 2 quick steps:
  1. Slip mating couplings together.
  2. Insert and tighten three #7 x ¾" cadmium plated sheet metal screws.
- ADEQUATE VENTILATION should be provided for the wall studding space surrounding the Metalbestos vent assembly.
  1. Preferably, leave ample opening where flue pipe passes through plates at top of wall.
  2. If local building codes prohibit a top opening, install ventilating louvers as shown in the illustration.



TESTS PROVE COOL WALL

Independent laboratory report shows walls are cool with Metalbestos Wall Heater Vent Pipe.



The above chart is based on the Underwriters Laboratories Company report, "Tests of Oval and Rectangular Gas Vent Pipes," Sheets CL 134 and CL 135, dated May 13, 1949. A typical wall heater used for the tests was mounted in a 2 x 4 stud wall with gypsum board paneling and a vent opening through the ceiling plates. Cement asbestos and Metalbestos flue pipes of the same capacity were tested under these identical conditions.



Note that Metalbestos protects surrounding walls from excessive heating even at the AGA maximum flue gas temperature of 550° F.

Exhibit I

IMPORTANCE OF AIR CIRCULATION

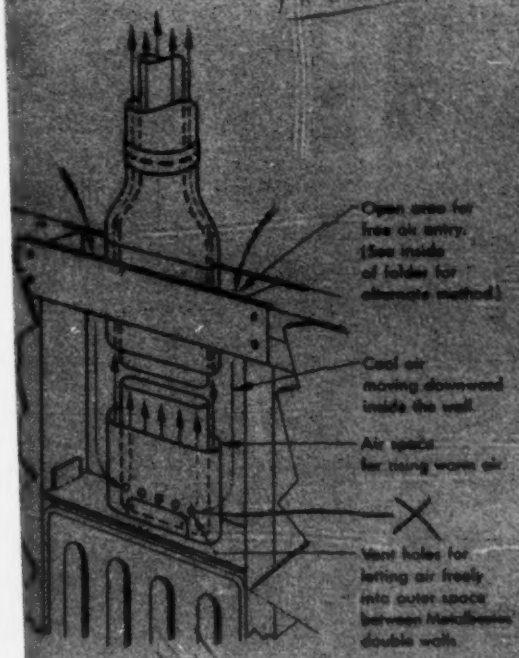
Metalbestos creates air movement in wall space surrounding flue pipe, substantially lowering wall temperatures.

- Heating of walls enclosing a flue pipe is considerably increased by the stagnant air ordinarily trapped inside a house structure.
- Recent laboratory tests have proven that with proper ventilation Metalbestos' unique construction cools the walls by maintaining a constant change of air.
- From illustration below, note how warm air rises between Metalbestos' double walls pulling cool replacement air down through the enclosed wall space.

HOUSE CONSTRUCTION SHOULD PROVIDE FOR THIS VENTILATION

1 By an opening between the top plates,
2 or by a wall ventilator near the ceiling.

Front



THE NEW (QUICK COUPLING)

METALBESTOS

A COMPLETE LINE OF GAS VENT AND FLUE PIPE

Straight pipes, fittings and adapters in sizes 3 to 8 inches in round and 3, 4 and 5 inches in oval (crimp joint) are available to cover the venting requirements of every type of gas appliance.

Designed specifically as a gas vent and flue pipe, QC Metalbestos has a unique double wall aluminum construction and quick couplings which combine exceptional speed and ease of installation with durability and superior performance.

UNDERWRITERS' LABORATORIES, INC. list Metalbestos as a Type B gas vent and flue pipe without restrictions.



EASY INSTALLATION

- No Cutting
- No Crimping
- No Tedious Fitting
- Adjustable Lengths
- Adjustable Elbows
- Automatic Alignment

SUPERIOR PERFORMANCE

- Maximum Insulation
- Minimum Condensation
- Gastight Installation
- Strong Draft
- High Corrosion Resistance

Insist on genuine non-Cooling No. 4

SOLD BY

Front

METALBESTOS is manufactured by

WILLIAMS WALLACE CO.

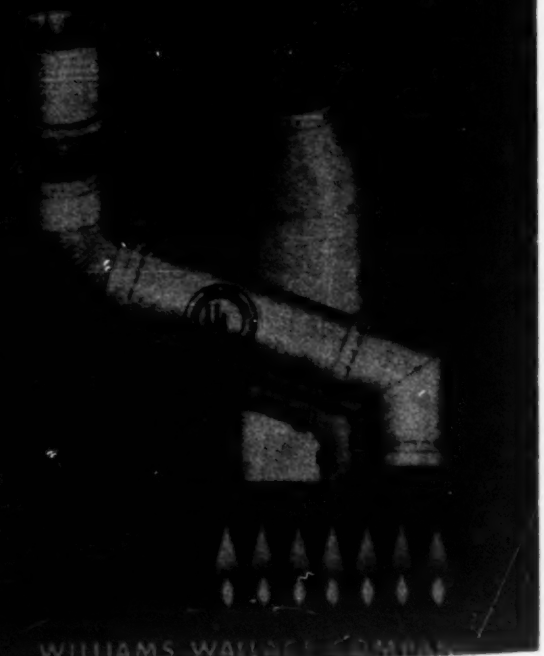
COOL WALLS ASSURED

THE NEW

QC METALBESTOS

WALL HEATER VENT ASSEMBLY

- KEEPS WALLS COOL
- INSTALLS EASILY
- VENTS PROPERLY



WILLIAMS WALLACE COMPANY

47

IN THE

Supreme Court of the United States

October Term, 1956
No. 529.

THE COLEMAN COMPANY, INC.,

Petitioner,

vs.

HOLLY MANUFACTURING COMPANY, INC.,

Respondent.

ANSWER TO PETITION FOR WRIT OF CERTIORARI.

JAMES B. CHRISTIE,
595 East Colorado Street,
Pasadena 1, California,
Attorney for Respondent.

RICHARD B. HORTON,
Of Counsel.

SUBJECT INDEX

PAGE

Statement of the case 2

The District Court, after hearing conflicting testimony on the issue of invention, made findings of fact which settled the issue 2

On appeal the Court of Appeals for the Ninth Circuit, made an independent review of the evidence and affirmed the District Court 2

Traditional problems in wall heater design are solved in the patent in suit 3

The wall heater of the invention enjoyed immediate and marked commercial success 5

Coleman pays tribute to the invention by deliberate infringement of the patent 6

Traditional problems in wall heaters are not solved in the prior art 6

Argument 8

I.

The patent in suit meets the standards of invention laid down by this court in the A. & P. case 8

II.

The findings of the two courts below, holding the patent in suit valid, precludes further review by this court 10

III.

The standard of invention laid down in the A. & P. case has not been diluted by the Ninth Circuit 13

Conclusion 15

TABLE OF AUTHORITIES CITED

Cases	Page
Barkeij v. Lockheed Aircraft Corp., 210 F. 2d 2d 1	13
Berkeley Pump Co. v. Jacuzzi Bros., Inc., 214 F. 2d 785	14
Filtex Corp. v. Atiyeh, 216 F. 2d 443	14
Fowler v. Vimcar Sales Co., 216 F. 2d 263	14
Graver Tank & Mfg. Co. v. Linde Air Prod. Co., 333 U. S. 271	10, 12
Hansen v. Safeway Stores, Inc., 110 U. S. P. Q. 170	14
Himes v. Chadwick, 199 F. 2d 100	13
Hunter Douglas Corp. v. Lando Products, Inc., 215 F. 2d 372	14
Jacuzzi Bros., Inc. v. Berkley Pump Co., 191 F. 2d 632	13
King Gun Sight Co. v. Micro Sight Co., 218 F. 2d 825	14
Kwikset Locks, Inc. v. Hillgren, 210 F. 2d 483	13, 14
Leishman v. General Motors, 191 F. 2d 522	13
Lunn v. F. W. Woolworth Co., 207 F. 2d 174	13
Oxnard Canners v. Bradley, 194 F. 2d 655	13
Pacific Contact Labs. v. Solex Labs., 209 F. 2d 529	13
Parker Appliance Co. v. Irvin W. Masters, Inc., 193 F. 2d 180, aff'g 94 F. Supp. 72	13
Park-In Theatres v. Perkins, 190 F. 2d 137	13
Patterson-Ballagh v. Moss, 201 F. 2d 403	13
Peirce v. Muehleisen, 226 F. 2d 200	14
Photochart v. Photo Patrol, 189 F. 2d 625	13
Riley v. Broadway-Hale Stores, 217 F. 2d 530	14
Ry-Lock Co. v. Sears, Roebuck & Co., 227 F. 2d 615	14
Schmeiser v. Thomasian, 227 F. 2d 875	14
Shingle Products, Inc. v. Gleason, 211 F. 2d 437	14
Stearns v. Tinker & Rasor, 220 F. 2d 49	14
Syracuse v. Paris, 109 U. S. P. Q. 450	14
Syracuse v. Paris, 234 F. 2d 65	14

PAGE

The Coleman Company v. Hollywood Manufacturing Company, 233 F. 2d 71 14

The Great Atlantic & Pacific Tea Co. v. Supermarket Co., 340 U. S. 147 ..... 8, 9, 13, 15

Up-Right, Inc. v. Patent Scaffolding Co., 228 F. 2d 102 14

Wenzel Tent Co. v. White Stag Co., 199 F. 2d 740 13

Whiteman v. Mathews, 216 F. 2d 712 14

Winslow Engineering Co. v. Smith, 223 F. 2d 438 14

IN THE

Supreme Court of the United States

October Term, 1956
No. 529.

THE COLEMAN COMPANY, INC.,

Petitioner,

vs.

HOLLY MANUFACTURING COMPANY, INC.,

Respondent.

ANSWER TO PETITION FOR WRIT OF CERTIORARI.

The Coleman Company, a wilful and deliberate infringer, asks this Court to review the determination made by the Patent Office that the device claimed in the patent in suit is invention over the prior art, after such determination has been affirmed by the findings of fact of two lower courts. The questions raised should not be further reviewed by this Court.

Statement of the Case.

Coleman's statement of the case is argumentative, incomplete and gives an inaccurate impression of the issues involved. A clearer statement of the case follows:

The District Court, After Hearing Conflicting Testimony on the Issue of Invention, Made Findings of Fact Which Settled the Issue.

The court found

> "that the invention of the patent in suit has simultaneously solved the hot wall problem from floor to ceiling, increased thermal efficiency while permitting increased heat input, improved air circulation within the room, minimized heat loss due to warm air being sucked out of the room into the flue through the draft hood, and has rendered this heat loss substantially independent of flue height; . . ."

The court further found that the results of the invented combination of elements "exceed the accumulation of the results of the individual elements of such combination; . . ." And the court specifically found that *none* of the references anticipates "the group of cooperative elements described and claimed by the patent in suit." [R. 21-24.]

On Appeal the Court of Appeals for the Ninth Circuit, Made an Independent Review of the Evidence and Affirmed the District Court.

The court stated:

> "In our opinion this arrangement of parts has caused all of the elements incorporated in the Holly combination to cooperate in a new way to produce a new, useful and unexpected result in the room-heat-

ing art. This combination spells out both novelty and utility. As reduced to practice its attributes have caused the Holly device to take on a new and unique quality and distinction which clearly makes it a new and useful improvement in wall heaters . . .

"Furthermore, a careful look at the prior art patents in evidence *makes it impossible to conclude that creating the compact wall combination in suit would have been a simple, obvious and fairly easy chore for a skilled mechanic familiar with room-heating problems* after he had seen these Letters Patent and understood the construction and method of operation of the devices there described. In our view the whole of the Holly device yields 'surprising consequences' which others in the heating field failed to find 'obvious.'

"In addition, the record establishes a ready and wide-spread acceptance of the Holly device on the market and attendant commercial success. When the indicia of invention we mention are taken into account together with the true state of the prior art and what the patent in suit accomplished to improve the art, it must be concluded that it represents invention." (App. 15-16; emphasis added.)

Traditional Problems in Wall Heater Design Are Solved in the Patent in Suit.

Holly Manufacturing Company, the plaintiff in this action, manufactures and sells wall heaters. John Hollingsworth and Karl Bedell, the inventors of the wall heater of the patent in suit, are engineers in its employ. [R. 50, 483.]

They were assigned the general problem of getting "the heater in the smallest possible space with the largest possible capacity and not burn the house down." [R.

484.] The problem had two main parts: First, was the hot wall problem which Mr. Sheldon Coleman, defendant's president, described as "traditional." [R. 425.] The wall around the *conventional wall heater of the prior art* tended to get too hot. Defendant's expert witness and design engineer Kice testified "It would get hot enough that it would even blister paint." [R. 325.]

The second part of the problem was one of efficiency, for the A. G. A. (American Gas Association) insists that 70 per cent of the available heat from the burning of the fuel be put in the room. [R. 137.] And without A. G. A. approval, a wall heater for practical purposes is not marketable. [R. 473.]

Prior to Holly's patented invention the industry in general solved the hot wall problem by diluting the flue gasses with air drawn into the flue through the draft hood at the top of the combustion chamber in amounts sufficient to cool the flue. [R. 214.] However, drawing in this air from the room through the draft hood reduced efficiency, particularly with tall flues and resulting increased draft.

As Hollingsworth stated:

> "No one recognized, to my knowledge, that the efficiency was affected so materially by flue height. The laboratories had to run a requirements research investigation to verify that fact themselves, and they are a nationally recognized agency. They ran those tests after we developed the secondary heat exchanger, and based on those tests the requirements were changed." [R. 195.]

So, in the prior art the two parts of the problem; namely, hot walls and drop in heating efficiency, operated

against each other. Cooling the wall was only accomplished through decreased efficiency; increasing efficiency dangerously raised wall temperatures.

Hollingsworth and Bedell met the problem by the invention claimed in the patent in suit—a wall heater that solves the hot wall problem without reducing thermal efficiency and, moreover, makes thermal efficiency substantially independent of flue height, so that the heater of the invention will perform just as well with a two-story flue as with a one-story flue.

The Wall Heater of the Invention Enjoyed Immediate and Marked Commercial Success.

The patented wall heater was approved by the American Gas Association in 1950 and it was introduced to the trade by Holly in the same year. [R. 429, 473.] In that year, when the bulk of the Holly wall heater shipments were of the old non-patented type, Holly's share of the national wall heater market was 11%. In the following year, when Holly's stock of old-type wall heaters was exhausted and the bulk of Holly shipments was largely the new type heaters of the invention, its share of the national market increased to 19.2% and in 1952 the figure was 18.9%. [Ex. 43; R. 447, 542.]

Coleman came on the market with infringing devices in November, 1952, and in the following year there was a reduction in the share of the national market obtained by Holly to 14.6%. [R. 470; Ex. 43; R. 447, 542.]

In 1954, Holly wall heater shipments increased to 61,406 or 18% of the national market.

Coleman Pays Tribute to the Invention by Deliberate Infringement of the Patent.

Not until after Holly's new wall heater with its secondary heat exchanger was on the market and enjoying commercial success did Coleman undertake the design of the infringing devices. Harry Giwosky, the Coleman design engineer in charge of the project to design such devices, testified:

> "Q. Mr. Giwosky, when you designed the Coleman heaters, Nos. 64, 67, 68 and 69, had you seen a Holly heater with a secondary heat exchanger? A. Yes.
>
> * * * * * * * *
>
> Q. That is, the one that has, what Holly refers to, the secondary heat exchanger? A. Yes. . . .
>
> Q. Did any other heaters come on the market with a secondary heat exchanger? A. Not to my knowledge.
>
> Q. Holly was the only one? A. As far as I know, that is right." [R. 277-278.]

Traditional Problems in Wall Heaters Are Not Solved in the Prior Art.

Despite the fact that Coleman's engineer were unable to design a wall heater which solved "traditional" problems in wall heaters until after they had seen Holly's patented device, Coleman's Kice argued from the witness stand that the solution to the problems lay in the prior art. Gazing at the ancient fireplace art, he testified: "I see in this every element that is claimed by Holly." [R. 315.] And he testified that the metalbestos double-wall flue gave all the answers too. [R. 330.]

The learned attorneys representing Coleman in this Court have seen fit to call Holly's invention "in truth, a

hole in the wall."[1] (Pet. p. 4.) This suggestion is indeed strange for Coleman's witness Kice testified that before the heater of the invention "our answer . . . was to cut an opening in the wall. . . ."

"My dad showed it to me when I was working as a helper." [R. 327, 328.]

His testimony and the assertion of counsel are indeed curious. For, with all this information and omniscience including knowledge of "a hole in the wall" Kice's best design effort produced a wall heater in which the "area directly above the wall heater in the wall . . . would get hot enough to blister paint." [R. 325.]

If there were no problem in wall heater design, or if the problem was easy of solution, Coleman's skilled engineers should have been able to find the answers without reference to the Holly heater, if in fact solution lay in the wide information and prior art that Coleman's Kice had available to him. But the fact is otherwise.

The old stove and fireplace art upon which defendant sets great store gave no more help to the defendant than it did to the plaintiff. And Coleman admitted as much by applying for a patent on a claimed new feature in its infringing wall heater. [R. 305.] Its real views are evidenced by that fact, not by its present contention, made under the exigency of winning a lawsuit, that the answers to wall heater problems can be found in the prior art.

---

[1]Such lack of familiarity with the record is understandable. Four firms have represented Coleman: The Chicago firm of Dawson, Tilton & Graham at the outset; the Los Angeles firm of Lyon & Lyon at trial and on appeal; the Wichita firm of Foulston, Siefkin, Schoeppel, Bartlett & Powers on petition for rehearing; and the Washington firm of Covington & Burling on petition for certiorari.

ARGUMENT.

I.

The Patent in Suit Meets the Standards of Invention Laid Down by This Court in the A & P Case.

Both the trial court and the Court of Appeals fully considered the applicable standards of invention laid down in *The Great Atlantic and Pacific Tea Co. v. Supermarket Co.*, 340 U. S. 147. As the opinion of the Court of Appeals points out:

> "In examining the record in this case we have been fully mindful of the teachings of The Great Atlantic and Pacific Tea Co. v. Supermarket, etc. Co., . . . where the important question of patentability of mechanical devices came under close scrutiny. The Court there decided, *inter alia,* that 'only when the whole (of a device the elements of which are old in the art) in some way exceeds the sum of its parts is the accumulation of old devices patentable.'
>
> * * * * * * * *
>
> "This . . . poses the question whether this 'economizer' or secondary heat exchanger constitutes an 'element' in the Holly device which will (to quote the Supreme Court) 'perform any additional or *different function*' (*i.e.,* a special purpose) when brought into concert with the other elements in the combination than it would perform out of it. *The trial court was persuaded that it does perform exactly that sort of function, and so are we.*
>
> * * * * * * * *
>
> "And we think it abundantly plain that the Patent Office could only have understood that this 'economizer' box of the device was claimed and regarded by the patentees as constituting a *new* and necessary element and part of the entire mechanism, and one

essential to the successful performance of the functions, purpose and overall use for which the combination was designed. We hold that the Holly patent in suit represents invention and is valid." (App. pp. 13, 15, 16.) (Emphasis added.)

In the device of the Holly patent the novel secondary heat exchanger or economizer, when integrated into the wall heater, serves to prevent excessive wall temperatures from floor to ceiling and makes use of heat normally lost up the flue. This integration is accomplished by proportioning the cross-section of the radiator in the secondary heat exchanger so that a minimum of room air is drawn into the flue through the draft hood regardless of changes in draft conditions.

The District Court thus found that the combination of elements in the patented wall heater

> "cooperate to produce a new and beneficial result . . . and that the results of such combination exceed the accumulation of the results of the individual elements of such combination." [R. 22.]

And as the Court of Appeals held:

> "The earlier patented devices all of which were in evidence cannot be said to embody in any material way the dual heat passing functional operation accomplished by the use of the upper box 'economizer' integrated into the complete Holly device." (App. p. 15.)

Contrary to Coleman's assertion, the elements in the combination thus have been found to take on some new quality or function as required by the *A & P* case And the "whole" thus exceeds "the sum of its parts" to yield "surprising" consequences.

II.

The Findings of the Two Courts Below, Holding the Patent in Suit Valid, Precludes Further Review by This Court.

The two Courts below both considered conflicting evidence on the issue of invention. Both have affirmed the findings of the Patent Office that Holly's wall heater is a patentable invention over the prior art.

Under such circumstances the applicable rule is that laid down by this Court in *Graver Tank & Mfg. Co. v. Linde Air Prod. Co.,* 333 U. S. 271, 275 (1949):

> "The rule requires that an appellate court make allowance for the advantages possessed by the trial court in appraising the significance of conflicting testimony and reverse only 'clearly erroneous' findings. These are manifestly supported by substantial evidence and the Court of Appeals found them supported by the weight of the evidence—indeed found the evidence to warrant support of the patent even in matters not found by the trial court."

Nonetheless, petitioner still argues that all of the elements of the claims of the patent in suit are to be found in the McLeod patent relating to fireplaces. The McLeod patent represents part of the knowledge which Mr. Kice says he had when he himself undertook to design a wall heater, and if it were as relevant as counsel urges it is strange that Mr. Kice did not succeed in designing more than a wall heater which would dangerously blister paint. If it were as relevant as counsel urges, it is equally strange that the skilled Examiners of the United States Patent Office should have granted the patent in suit, for they also were aware of the McLeod patent [Ex. C; R. 295, 839] and cited it in the file wrapper of the patent in suit.

[Ex. 1; R. 47, 741.] Actually, however, there is no mystery about the matter.

McLeod deals with a fireplace in which solid fuel, such as wood or coal, is burned in an open-faced chamber that is connected directly to a flue or pipe 10 provided with a damper 12. The McLeod device is disposed in a great mass of masonry. The wall heater described and claimed in the patent in suit is designed to burn gas, as distinguished from solid fuel. This gas is not burned in an open-faced chamber but in a hollow radiator closed on all sides and in turn disposed in a second box which might be likened to the open-faced chamber of McLeod were it open at the front. But it is the radiator, not the box, which it connected to the flue, and this connection is made through a draft hood (which McLeod lacks), and without a draft-controlling damper (which McLeod employs).

The wall heater of the invention is designed to be placed in a thin combustible wall between adjacent studs, rather than in a mass of masonry where the fire hazard of hot walls does not exist.

And McLeod was not confronted with the necessity of having his fireplace pass minimum efficiency standards, for anyone can build a fireplace without approval of the American Gas Association. All these problems confronted the inventors of the patent in suit, plus the problem of rendering heating efficiency independent of flue height, about which McLeod teaches nothing.

Petitioner also argues that the ventilated flue or double-walled metal flue [Ex. T; R. 146, 941] anticipates the invention claimed in the patent in suit. However, the District Court disposed of this contention by finding that no "prior art relied upon by defendant more nearly discloses the invention of the patent in suit than do the refer-

ences cited by the Patent Office in the file wrapper of said patent." [R. 24.] This finding, which encompasses the ventilated flue, is plainly correct. The illustration (App. p. 47) shows that the flue, instead of functioning like the secondary heat exchanger, draws air down out of the attic and sends it out of the house through an annulus around the flue.

Too, it should be pointed out that the ventilated flue upon which Coleman now sets great store was not even considered pertinent in Coleman's argument to the Court of Appeals. As the Court of Appeals states (App. p. 9):

> ". . . in its brief it has seen fit to discuss, compare and principally rely upon as anticipation of the Holly device, only three prior patents in the house-heating field of art."

The Patent Office, the District Court and the Court of Appeals have all found that the device claimed in the patent in suit represents invention and is patentable over the prior art.

As this court succinctly stated:

> "A court of law, such as *this Court,* is, rather than a court for correction of errors in fact finding, *cannot undertake to review concurrent findings of fact by two courts below in the absence of a very obvious and exceptional showing of error* . . .
>
> "No such showing is made." (Emphasis added.)
>
> *Graver v. Linde Air Products, supra,* 331 U. S. 271, 275.

III.

The Standard of Invention Laid Down in the A & P Case Has Not Been Diluted by the Ninth Circuit.

Petitioner points out "It is, of course, recognized that patent cases are bottomed largely on their particular facts . . ." (Pet. p. 27.) Since the "particular facts" have been correctly found by two courts below, for that reason alone this Court should deny the petition for certiorari. However, petitioner makes the surprising suggestion that this Court review the present case because there may have been errors in other cases decided by the Ninth Circuit, *including cases in which certiorari has been denied.*

Respondent does not consider that cases decided by the Courts of Appeals lend themselves to a statistical analysis to determine whether or not a trend is developing. However, since petitioner has suggested that "a steady dilution of the fundamental standard of invention" has appeared in the Ninth Circuit, respondent deems it desirable to present the record of the Ninth Circuit in cases involving the validity of patents since the decision in the *A & P* case.

Since January of 1951 the Ninth Circuit has passed upon the validity of 34 patents; 27 of those were held invalid, 7 were held valid.[2]

---

[2]The cases upon which these figures are based are as follows:

Photochart v. Photo Patrol, 189 F. 2d 625; *Park-In Theatres v. Perkins,* 190 F. 2d 137; *Leishman v. General Motors,* 191 F. 2d 522; *Jacuzzi Bros., Inc., Inc. v. Berkeley Pump Co.,* 191 F. 2d 632; *Parker Appliance Co. v. Irvin W. Masters, Inc.,* 193 F. 2d 180, affirming 94 F. Supp. 72; *Oxnard Canners v. Bradley,* 194 F. 2d 655; *Himes v. Chadwick,* 199 F. 2d 100; *Wenzel Tent Co. v. White Stag Co.,* 199 F. 2d 740; *Patterson-Ballagh v. Moss,* 201 F. 2d 403; *Lunn v. F. W. Woolworth Co.,* 207 F. 2d 174; *Pacific Contact Labs. v. Solex Labs.,* 209 F. 2d 529; *Barkeij v. Lockheed Aircraft Corp.,* 210 F. 2d 1; *Kwikset Locks, Inc. v.*

Indeed, as late as June 4, 1956, the Ninth Circuit *upheld a summary judgment of the invalidity* of a patent. (*Syracuse v. Paris,* 109 U. S. P. Q. 450.) The Court there stated:

> ". . . one look at the bag is enough to convince a court that it lacks the elements that the United States patent laws were intended to protect."

It should be pointed out that a few days thereafter the Court of Appeals decided one of the cases relied upon by petitioner as showing "steady dilution of the fundamental standard of invention," *Hansen v. Safeway Stores, Inc.*, 110 U. S. P. Q. 170. (Pet. p. 4.) In the *Hansen* case the Court on a procedural question reversed a summary judgment holding a patent invalid since a genuine issue of fact existed. However, the Court expressly refused to discuss the issues of invention and anticipation "since the field should not be clouded when the matter comes up for reexamination as questions of fact." (109 U. S. P. Q. at 173.) Certainly, therefore, it cannot be said that the Ninth Circuit's realistic appraisal of each patent case which

---

Hillgren, 210 F. 2d 483; *Shingle Products, Inc. v. Gleason,* 211 F. 2d 437; *Berkeley Pump Co. v. Jacuzzi Bros., Inc.,* 214 F. 2d 785; *Hunter Douglas Corp. v. Lando Products, Inc.,* 215 F. 2d 372; *Fowler v. Vimcar Sales Co.,* 216 F. 2d 263; *Filtex Corp. v. Atiyeh,* 216 F. 2d 443; *Whiteman v. Mathews,* 216 F. 2d 712; *Riley v. Broadway-Hale Stores,* 217 F. 2d 530; *King Gun Sight Co. v. Micro Sight Co.,* 218 F. 2d 825; *Stearns v. Tinker & Rasor,* 220 F. 2d 49; *Winslow Engineering Co. v. Smith,* 223 F. 2d 438; *Peirce v. Muehleisen,* 226 F. 2d 200; *Ry-Lock Co. v. Sears, Roebuck & Co.,* 227 F. 2d 615; *Schmeiser v. Thomasian,* 227 F. 2d 875; *Up-Right, Inc. v. Patent Scaffolding Co.,* 228 F. 2d 102; *The Coleman Company v. Holly Manufacturing Company,* 233 F. 2d 71; *Syracuse v. Paris,* 234 F. 2d 65.

Ninth Circuit rulings on the validity of patents breaks down by years as follows: 1951, six invalid, none valid; 1952, three invalid, one valid; 1953, one invalid, one valid; 1954, nine invalid, three valid; 1955, seven invalid, one valid; first six months of 1956, one invalid, one valid.

comes before it amounts to a "persistent refusal of the Court of Appeals for the Ninth Circuit to apply the rule of the A & P case."

Conclusion.

Petitioner, who paid high tribute to the patent in suit by deliberately infringing the patent, now asks this Court to review the factual question of invention. This question of fact has been decided in favor of respondent by the Patent Office and by the two courts below. Petitioner has had its day in court.

On appeal, the Court of Appeals for the Ninth Circuit reviewed the evidence in the light of the *A & P* case and affirmed the District Court, holding that the secondary heat exchanger of the wall heater constitutes "a new and necessary element" which performs ". . . 'an additional or different function' (*i.e.*, a special purpose) when brought into concert with the other elements in the combination . . ." The requirements of the *A & P* case are clearly met by this finding of fact. And, as demonstrated, the finding is supported by the evidence. There is no error. This Court should deny the petition.

Respectfully submitted,

JAMES B. CHRISTIE,
Attorney for Respondent.

RICHARD B. HOEGH,
Of Counsel.